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ABSTRACT

Presented are 54 papers offered during the 1980 Workshop of the Association of Interpretive Naturalists at Cape Cod, Massachusetts. These papers, which relate to the conference theme "Integrating Natural and Cultural Interpretation," are organized into three categories: (1) Operations, (2) Management, and (3) Research. Representative of the documents contained in this compilation are: (1) Architecture as an Interpretive Tool: (2) The Use of Interpretation as a Management Tool: (3) Interpreting the Coastal Environment from Drydock: and (4) Participation and Non-Participation in Interpretive Events. (WB)

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Integrating Cultural and Natural Interpretation

1980 WORKSHOP
Association of Interpretive Naturalists
October 6 - 10

SE 033 247

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THE HUNTER, THE NON-HUNTER AND THE HUNTED

Paul Benvenuti

The hunter and the hunted have shared an intimate, sometimes even religious, relationship through millions of years of history and prehistory. Of course the trappings of the hunt have changed over the years and the primary motives have shifted a bit, but the essential elements remain intact. There is still the search, the attempt to outwit or overpower the animal, and finally the kill. Although the prehistoric hunter was probably motivated more by the need for meat on the fire than the desire for heads on the office wall, the successful hunt, then as now, must have brought some sense of self esteem, and praise from those who remained at camp.

It is these non-hunters that have undergone a change even more dramatic than the advance from folsom point to .458 Winchester magnum. It is difficult to imagine the non-hunter in the rock shelter turning down a bison roast due to moral commitment. Today it is not unlikely for a non-hunter, perhaps a pillar of the community or hero of stage or screen, to publicly affirm that it is bison hunters and not bison that should be roasted and devoured.

Is it possible for an interpreter to use hunting as a springboard to give these non-hunters a new perspective on wildlife and wildlife management? Of course it is possible. An interpreter can move mountains, on a good day with the wind to her back.

CASE HISTORY: CHINCOTEAGUE NATIONAL WILDLIFE REFUGE

Chincoteague National Wildlife Refuge is located on a barrier island off the coast of Virginia. We deal with approximately 1.25 millions visitors a year. Some are hunters, some are antihunters, some are interested only in sun and sand and surf. We try to reach as many as possible with a message of wildlife management. Because the refuge was originally established as a migratory stop and wintering area for waterfowl, it is appropriate that waterfowl management is an important part of our overall interpretive program.

There are two main components to the waterfowl management story. One is habitat management. Most refuge managers, and hence the interpreters, are tuned in to this facit. Programs emphasize water level manipulation, controlled burning, crop planting and submerged aquatics. This is fine, this is good,

this is important. But we cannot stop there. The other facit is regulation. In the battle against overhunting, we have been basically victorious. Most managers are content to interpret this facit by stating, "Duck Stamps buy refuges." This is a comfortable statement for the refuge manager and it makes the duck hunters feel good. The interpreter who goes beyond this simple statement and digs to the historic roots of regulations unearths a wealth of folklore, wildlife lore, drama and bit of good clean fun.

THE WILDFOWLING EXHIBIT

Around the turn of the century, hunters sent millions of birds annually to the meat markets and restaurants of a booming nation. The government finally acted to prevent this wholesale destruction of wildfowl resources. The market hunting era passed but some of the artifacts survived. The refuge has acquired a modest but representative collection of these artifacts. With the collection, we can interpret not only the habits of the hunter, but the habits and natural history of the birds themselves.

The sinkbox, a now outlawed form of floating blind used to hunt diving ducks, leads to a discussion of the feeding habits of these birds. From these we can go on to discuss the past and present threats of pollution in the bays and estuaries. The sink box also tells the story of men who spent long cold hours on the wind-swept bays. They toiled to harvest a natural product, killing the birds with no more malice than the watermen have for fish and crabs and oysters.

Also in the exhibit are decoys with a uniquely American history reaching back perhaps to the magic of prehistoric American hunters. It is a history that has developed through folk art and hasty expediency into both the present day fine art of detailed wildlife carving and the mass production of plastic ducks.

Here too are the boats that carried the men into the darkness and the guns that rent the darkness with flame and death. The gun collection starts with a matchlock and marches forward, each advance bred on the battlefield, then turned against wild animals.

There is a punt gun with its two inch mouth. Even before Michener gave it such widespread notoriety in Chesapeake, (2:660-666) the visitor only needed one look and the gentle prodding of an interpreter to understand what it took to lie in a fragile boat beside this 89 pound monster. The punt gun

and its cousin the battery gun are not at the end of the collection, nor were they ever a serious threat to waterfowl numbers. That place belongs to the rather ordinary looking Remington 12 gauge. But this gun is ordinary only at first glance. It was one of the first autoloading shotguns designed by John Browning. At the hands of Attley Langford this one gun killed over 35,000 ducks. It was only one of many guns owned by Langford, and Langford was only one of many men hunting for the markets.

With the autoloading shotgun, a sack of corn, and a nightlight, market hunting reached its peak and in reaching its peak, it was doomed. Waterfowl management was born.

THE OUTLAW HUNTER

Tom Reed is an artifact of the market hunting era. Seventy nine years ago, when Tom was born, it was still legal and moral to sell ducks for the market. As Tom grew older and more proficient at hunting, the laws grew more restrictive. Tom's battle of wits with the federal agents began.

Tom likes to say that we couldn't catch him so we had to hire him. It is true that we have hired him as an intermittent interpreter, but he had hung up his guns long before that. When Tom talks to the public, he speaks of the old days, the old ways of catching and killing waterfowl, and how he eluded capture.

Through his talks runs the underlying thread of an appreciation for wildfowl and an interest in their survival. He is a small man, a bit creeky with age now. Even the most avid anti-hunter would find it difficult not to be charmed by him. Men like Tom Reed are becoming increasingly rare. Using them in interpretive programs is an urgent as preserving historic buildings.

SOME PITFALLS

There may be problems encountered when this form of interpretation is used. We avoid some problems by techniques learned at other refuges, but other pitfalls were blindly blundered into.

Perhaps the worst mistake started several years ago when the artifacts were first donated. The donations were poorly documented and the inventories poorly maintained. For years the collection suffered the ravages of humidity, dirt, insects

and mishandling. If you do not have the people or the will to take care of artifacts, do not accept them.

Another pitfall is certainly not unique to Chincoteague. Wildlife managers are scared stiff of anti-hunters. Fish and Wildlife Service Policy Update Number 4 (3:4-5) directs us to keep the hunter and non-hunter separated. Such a separation can be carried to ridiculous extremes of paranoia that needlessly deprive both hunters and non-hunters of freedom of movement. Even more important, if carried too far the separation can increase mistrust and misunderstanding.

By using some simple techniques, we reduce the chance of antagonizing non-hunters. We emphasize hunting in the past tense without apologizing for the hunting that still exists. We emphasize hunting that was for meat. A partially completed study, "Public Attitudes Toward Critical Wildlife and Natural Habitat Issues," shows 85% of the people interviewed approved of "hunting for meat", while only 40% approved of "hunting waterfowl such as ducks for recreation and sport". A mere 15% approved of "hunting for trophy such as horns or a mounted animal". (2:106)

One perpetual mistake made by wildlife managers is to promote hunting as an essential element of wildlife management. Watch out for this one. It is a double-edged sword and it can cut you to shreads. Unless backed by an iron clad case, managers run the risk of being accused of selling out to hunting interests, producing a surplus of game at the expense of non-game, of having personal vested interests in hunting, and a host of other real and imagined sins.

CONCLUSION

Integrating natural and cultural history provides a wealth of possibilities for the interpreter. Adding a politically and emotionally sensitive issue increases the stakes and the excitement. This brief case history was not intended to provide specific guidelines. Its goal was to pique your interest and offer encouragement.

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INTEGRATING INTERPRETATION INTO LAND MANAGEMENT PLANNING: A FOREST SERVICE CASE STUDY

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Two years ago, the Eastern Region of the U.S. Forest Service initiated an unprecedented kind of Visitor Information Service (VIS) plan. The unique characteristic of this Hiawatha National Forest (Michigan) VIS plan is its congruence with the land management planning process. Of critical importance during this planning was adherence to Congress' wishes as expressed in such recent mandates as the Resources Planning Act (RPA) and the National Forest Management Act (NFMA).

Congressional intent is for all land management planning to follow the same general process. Basically, the advantage of standardized planning for resource management is its effectiveness in helping decision-makers select the most appropriate uses of a land unit. The crucial challenge to a resource managing agency is rational allocation of land for optimum societal benefits. From this perspective, the relative values of various land use alternatives can best be judged according to their ability to provide the benefits most in demand. Such benefits, in planning terminology, are "outputs" i.e. products or end results of resource management.

A fundamental problem with conventional interpretive planning in land managing agencies such as the Forest Service has been an inattentiveness to outputs. For example, visitor centers have often been constructed in advance of any thought to what might be accomplished by those visitor centers. Such actions appear illogical to agency personnel involved in producing tangible products with obvious economic value, e.g. timber or minerals. Logging roads would not be built prior to a timber resource inventory, nor would mining begin in advance of geological exploration. Because interpretation has seldom been planned to produce certain outputs, it has been viewed as superfluous within the Forest Service.

In the fall of 1978, a contract was let with Consortium West, a Salt Lake City based interpretive planning and media design firm with interpretive experience in both the public and private sectors. The contractor was to work closely with the regional VIS specialist and the forest recreation/lands staff in developing the plan. A planning team was established, consisting of the Forest Service and consultant firm personnel.

From the outset, the planning team agreed that the Hiawatha National Forest VIS plan was to be integrated into the larger Forest Service land management planning process. It was recognized that VIS in the past had been seen only as an unimportant "extra", and if the forest's VIS program was to have any viability it would have to become an integral part of forest management.

The team agreed that the plan should conform to an output orientation, identifying the products intended to result from the VIS planning process as well as identifying the processes themselves. VIS objectives were to be stated in terms of measurable outcomes in addition to the usual procedural mission statements. Every effort was to be made to fit the forest level VIS plan to adjacent planning levels, both at the regional and district levels. By working closely with regional and district personnel, the planning team hoped to be able to eliminate potential conflicts among objectives at both higher and lower levels of planning.

Initial coordination meetings and field work were completed before the onset of the northern Michigan winter, and these investigations verified the need for an integrated planning approach if the Hiawatha National Forest VIS plan was ever to be implemented with any hope of success. The forest's resources were under considerable pressure from competing interests, including recreation demand from local and non-local visitors.

A limited public involvement program during succeeding months revealed demands for a variety of recreation experiences and a strong local propensity to consider the forest as a private reserve. Tourist users were confused by irregular forest boundaries and land ownership and the lack of a distinctive visual or mental image for the area.

The need to provide recreation experiences that could to a degree be segregated from tourist uses emerged as a primary local need. Tourists seemed to have a rather fuzzy image of forest boundaries and were badly in need of orientation to forest recreation opportunities. For both major types of users, there seemed to be roles for an innovative VIS program that transcended past directions for such programs.

In the spring of 1979, a workshop was held with district rangers and recreation personnel. These sessions helped identify existing and potential conflicts between VIS and other forest management programs. They also allowed the planners to tap the knowledge of on-the-ground personnel regarding visitor interests and needs, and concerns of local residents.

Early in the planning process the Hiawatha VIS team recognized the correlation between apparent VIS needs and recent advances in natural resource and recreation planning. The past decade has seen impressive progress in the application of social and behavioral science theory to the planning of natural resources. Essentially, the value of the behavioral approach lies in its consumer orientation. Rather than employing "supply and demand" in the economic or activity sense, recreation needs are assessed in terms of desired experiences. This planning approach is humanistic, and requires heavy public involvement to formulate the value judgements that become planning assumptions.

The team recognized that the existing Hiawatha National Forest Recreation Management Plan conformed to the behavioral approach in that it provided for "experience opportunities". Those who developed the plan had assessed the recreational needs on the forest, then determined the extent to which the resource base could be used to deliver those benefits. After examining the tradeoffs between recreation and other resource outputs, management actions were recommended that were intended to produce those benefit opportunities.

Building upon this earlier planning, the VIS planning team sought to develop a VIS program in which communication with visitors would be an effective tool in helping provide desired forest recreation experiences. This was in keeping with the Forest Service concept of Visitor Information Services, which encompasses a broad mission including orientation as well as traditional interpretation. While it is intended to serve all resource divisions of the Forest Service, it is administratively a recreation function, and the recreation management program was viewed by the planning team as the vehicle for integrating the Hiawatha VIS effort into the broader spectrum of forest management.

In order to serve the purposes of recreation management, VIS of necessity had to serve the two basic purposes of recreation management, as stated by the forest recreation plan:

1. To maximize benefits, i.e. experience opportunities on the forest resource.

2. To maintain the quality and integrity of forest resources.

As the VIS planning team combined these two recreation management purposes with the two VIS functions - orientation and interpretation, four possible combinations of purpose and function emerged:

1. Orient visitors to increase their benefit opportunities.

2. Orient visitors to maintain resource quality.

3. Interpret resources to increase visitor benefit opportunities.

4. Interpret resources to maintain resource quality.

These four mixes became the outline for the goals and objectives of the Hiawatha National Forest VIS Plan. These broad statements of purposes became function goals for the Hiawatha VIS effort, each supported by a heirarchy of specific, measurable objectives that could later serve as criteria for evaluating VIS program effectiveness.

Thus given a clear sense of purpose and direction, the planning team chose to follow the recreation planning model for development of the VIS plan rather than more traditional interpretive planning approaches. Public involvement and forest management input were used to make value judgements about orientation and interpretation needs. The resource base was then examined to determine the extent to which it could be used to deliver these orientation/interpretation benefits. Tradeoffs with other resource outputs were considered, and management actions were recommended to produce benefit opportunities. Only actions clearly within the realm of the VIS mission were recommended, and only recreation benefits were addressed. In this way political and budgetary realities were seen not as constraints, but as givens from the outset. The program recommendations that form the heart of the VIS plan are organized along several lines, each of which is pertinent to how Visitor Information Services should be approached:

1. Orientation vs. Interpretation - in the broadest sense, the program was divided between these two major functions of VIS. The VIS themes for the forest were classified as to whether they relate to orientation (general forest orientation, seasonal and specific recreation opportunities, safety/regulatory information, etc.) or interpretation (Northwoods and Wildwaters, Logging and Forestry, Early Settlement, The Hiawatha Legend, etc.) and proposed VIS sites were classified as to whether they were orientation sites, interpretive sites, or both.

2. Site Specific vs. General - some elements of the program are at specific locations where some kind of VIS visitor activity would take place. Other elements of the program, such as VIS personnel, Recreation Opportunity Guides, some publications, etc., relate to the forest as a whole and not to any site. This basic division was followed in the presentation of all program components and

elements -- they were classified as either site-specific or general.

3. On-Forest vs. Off-Forest - this distinction was made between all site-related activities and program elements. Naturally, most of the program elements were in the "on-forest" category, where the Forest Service has complete control over site use, development, management, etc. A few program components, however, were located off-forest in order to achieve maximum effectiveness in reaching potential forest visitors. In these cases, the Forest Service would work with other agencies and organizations to utilize key non-USFS sites and facilities as part of the forest's VIS program.

Working within these contexts, the proposed VIS program was developed with an eye to achieving maximum effectiveness in orienting visitors and helping them match desires and expectations with the opportunities available to them on the Hiawatha National Forest. This orientation need was the major VIS need identified during the planning process. The selection of key sites for orientation functions and the general increase in the number of sites where Hiawatha National Forest information would be available are indicative of this underlying concern. More than 70 sites and locales on the Hiawatha National Forest or at nearby areas were identified as having potential for use in the forest's VIS program. These sites ranged in importance from those with potential for major VIS development to sites where only a simple forest orientation map is needed. Some sites would require no physical development at all, with printed guides or handout leaflets providing an interpretive experience for interested visitors only. For each site or locale, the team recommended a proposed VIS action or function, delineated any needed physical facilities or site developments, identified needed interpretive/communication media, noted the themes to be featured, and the roles of VIS personnel at the location. A staged program for implementation of the total program was also developed, keyed to fiscal years and taking into consideration necessary further planning needed for specific program components.

Despite its comprehensive scope, the Hiawatha National Forest VIS plan was seen by the planning team as only providing a framework that must still be fleshed out in planning and developing each specific site or component in the VIS mix. In later planning, care must still be given to the exact messages communicated at each location to see that more subtle visitor needs and expectations are being met. Assessing such needs will require developing an inventory and classification system like the Recreation Opporutnity Spectrum before the

many specific needs can be identified. As such visitor needs and possible areas of visitor/management conflicts are more precisely defined by the VIS staff and forest managers, specific VIS activities can be formulated that can address these needs and challenges.

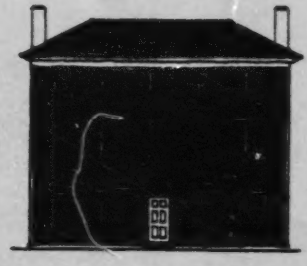
In the meantime, the basic plan outlined in the VIS plan should provide a broad framework for a program that will meet the most essential visitor needs and help alleviate visitor/management conflicts in general.

ARCHITECTURE AS AN INTERPRETIVE TOOL

George Stephen

Of all the resources available to the interpreter architecture is one of the least fully exploited. Apart from buildings that we actively dislike (somewhat akin to the squeaky wheel getting the oil), it seems that most of our attention is given mainly to buildings that have real or imagined association with historical events and figures. This is understandable, but unfortunate, in that it has tended to obscure the fact that all over the country there are also thousands of buildings of all shapes, sizes, and degrees of architectural merit in which no one of national stature may ever have slept but which, if examined carefully, may often tell us much more about people, life styles and regional characteristics than the officially "historical" properties.

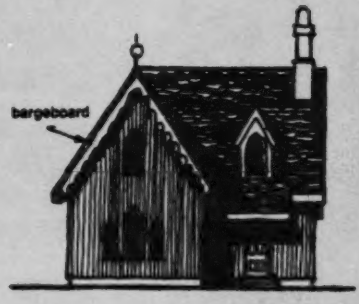
The naturalist, too, often tends to overlook (or ignore) buildings as something alien to nature and, therefore, not on his wavelength. This, again, is a mistake as buildings can have a very positive relationship to their environment - either by harmonizing with it or contrasting with it effectively, as we shall see. Whether we approve or not, however, buildings are very much part of the landscape and must be included in any real account of it. It is one of the main purposes of this conference to relate cultural and natural resources (as symbolized in the logo) and architecture is the most obvious direct link between the two.



FEDERAL

Identifying Styles

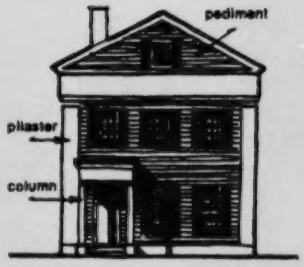
One of the most useful basic interpretive skills that can be developed is the ability to identify the architectural styles or - more often - mixture of styles we see in local buildings. This requires more than just a general knowledge of architectural history, although some familiarity with what Greek, Roman, Gothic and Renaissance architecture looked like is useful. Most of the buildings we commonly see that are over fifty years old do have a relationship, however tenuous, to those older European styles, but the elements have become so modified to suit new materials and uses as to have formed legitimate styles in their own right - Greek Revival, Gothic Revival, etc.



GOTHIC REVIVAL

In many cases the style, like beauty, may be only skin deep - as in many Greek Revival examples in New England that are really traditional clapboard houses with extra-wide cornerboards and a triangulated gable giving a remotely Parthenon-like appearance. Nevertheless, the clues given by these details

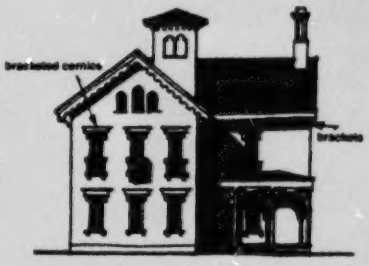
can help us to establish approximately the date of the building and also to get an inkling as to what was going on in the mind of the designer, the builder and the original owner. It should be emphasized, however, that the architectural qualities of revival-style buildings do not depend on their closeness to the original model - whether it be the Parthenon or an Italian farm house - and that these styles took on a life of their own which often varied widely in different parts of the country. It is interesting to contrast, for instance, our New England Greek Revival clapboard house with a plantation mansion in the Deep South or the Federal Building in New York City - all nominally in the same style.



GREEK REVIVAL

One of the greatest advantages of developing an eye for the styles, and therefore the approximate ages of buildings is that it often enables us to see quite clearly the origins and development patterns of communities, even before we know their history.

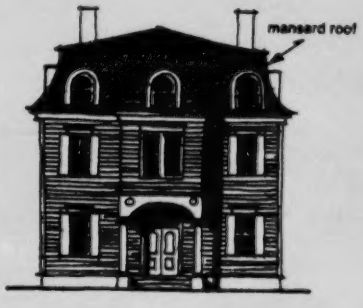
The beginner at "building spotting" is often surprised and a little intimidated by the number of styles that are encountered in books. For this reason it is probably best to concentrate at first on domestic architecture and on the styles in which the greatest number of houses have been built. These, of course, will vary from region to region, but generally speaking will be the styles that flourished after the Colonial Period and before 1900 when the appearance of buildings began to change almost with the rapidity of clothing fashions. After that time, the styles, which originally represented quite distinct ways of designing and building, tended to become increasingly a matter of "fancy dress" for standard layouts.



ITALIANATE

Between 1780 and 1900 there existed in this country about nineteen distinct architectural styles. By applying the above criteria, however, we can reduce them to six main headings:

1. Federal or Adam — approx. 1780-1820
2. Gothic Revival — " 1820-1890
3. Greek Revival — " 1820-1860
4. Italianate (or Bracketed) — " 1840-1865
5. Mansard (or French Second Empire) — " 1855-1885
6. Queen Anne (including its offshoots, the Shingle, Stick and Eastlake styles) — " 1880-1900



MANSARD

As noted the above dates are only approximate and tend to be in "Eastern Standard Time" - that is, allowance must often be made for the travel of the new styles in an east-to-west direction across the country. Also, although the styles except for Gothic Revival) tend to follow one another, they often overlap - sometimes with fascinating local results - giving such blends as Greek-Italianate, Italianate-Mansard, etc. (Perhaps some new style names should be invented, such as "Brackety-Anne"....)

QUEEN ANNE

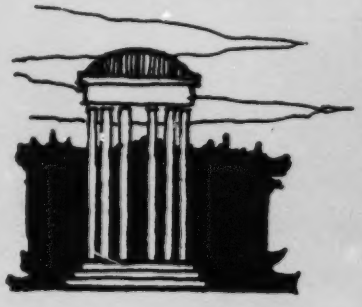
Unfortunately there is not the space here to discuss the styles in detail, but a good account of these can be found in the books mentioned in the Bibliography section. The illustrations in this article show some typical examples of the principal styles and are reproduced mostly from the author's "Remodeling Old Houses Without Destroying Their Character" by permission of the publisher, Alfred A. Knopf, Inc., New York.

Seeing Architecture as Part of the Environment

It can be very instructive to try to analyse how the function of buildings has affected their appearance, shape and location. Likewise, the whole general relationship of buildings to landscape can often tell us much about the area, the type of people who live there and what they do.

CONTRAST & BLEND

Basically, buildings tend to relate to their environment in two ways - either by blending or by contrasting with it. Often, however, we see elements of both intermixed in the same building, such as in the typical white-painted New England house which contrasts strongly in color and tone with the surrounding dark green trees but, nevertheless, harmonizes with them by being vertical and made of the same material - wood. It is usually truer to say, therefore, that a building mainly contrasts or mainly blends with its surroundings.



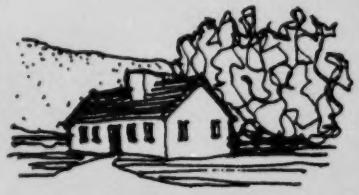
CONTRAST

Examples of strong contrast with the surroundings would include many architectural monuments all the way up to the Parthenon and Taj Mahal, as well as functional buildings demanding a high degree of visibility, such as lighthouses. Many avant-garde houses of the 1920's and 30's, too, used extreme contrast in color and also non-natural materials, such as concrete, to dramatise the break with tradition. On the other end of the scale, buildings that blend with the surroundings tend to take on the colors and contours of the terrain and are, therefore, usually built of local natural materials, such as stone and wood. These are often houses or cabins with predominantly horizontal lines and with natural finishes, such as shingles, logs or fieldstone masonry.

NATURAL BLEND

Another way of relating buildings to their setting is by what might be called the Cultural method - the use of local traditional building forms. This is well illustrated by the Cape Cod National Seashore headquarters building, a completely 20th century building which has been successfully integrated with its surroundings by breaking it down into relatively small units and by the use of steeply-pitched roofs such as are commonly found in the area. Details such as these usually relate well to the landscape, whether it is predominantly horizontal or vertical, because they are a direct response to climatic conditions - a clear case of beauty originating in function. It is interesting to compare this with the nearby Visitor Center which was deliberately designed to be more of an "eye-catcher", and contrasts with the surroundings by the use of forms not traditional to Cape Cod and also by being located on the crown of a small hill.

CULTURAL BLEND



TRADITIONAL HOUSE

This introduces the last important aspect - location - which in itself often gives us strong clues as to the function of a building, as well as for whom it was originally built. It is significant that on Cape Cod most of the older houses were located in relatively low and sheltered places, snug and out of sight of the sea, whereas those more recently designed only for summer use tend to be on exposed sites with panoramic views of the ocean - both for valid, functional reasons.

SUMMER HOUSE

Tailpiece.

Architecture can be a most effective means of improving or maintaining good relations between parks and their surrounding communities. Preservation workshops, talks and photographic exhibits related to local buildings are direct ways of showing genuine interest and concern in the environment. Such programs can cover everything from the problems of the homeowner of limited means who has a 19th century house and wants to do the right thing when he remodels to, say, an exhibition of photographs of local buildings relating them (or details from them) to European prototypes from the countries of origin of local ethnic groups.

The possibilities for the use of architecture in interpretive programs are endless and it is sincerely hoped that this short article, by pointing out some of them, might help to start a sort of Renaissance in interpretation.

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THE INTERPRETIVE POTENTIAL OF CEMETERIES

Sandra A. Poneleit* and Lois Mittino Gray**

INTRODUCTION

In the United States alone, hundreds of thousands of acres of land have been reserved for the traditional uses associated with graveyards, cemeteries, and memorial parks. Many of these areas could support certain nontraditional uses as well. Depending upon the specific site, cemeteries in urban and rural areas can be looked upon as settings with great potential for integrating many aspects of natural and cultural interpretation.

PHILOSOPHY

From an interpretive standpoint, the significance of a cemetery may vary for each individual site. Generally, cemeteries represent ongoing exhibits of many aspects of an area's local heritage. Often they are among the few remaining plots of land that support unique flora and fauna, as in the remnant Midwestern prairies. The aura of a cemetery often makes it intrinsically interesting to people. Awareness of the many values of cemetery land may help us to better understand our role in the whole scheme of life. In urban areas, where open space is often scarce, the green space provided by cemetery land can aid in improving the quality of the city environment for humans and wildlife (3,5,9,10,12). In rural areas, social interaction is encouraged by community service projects involving cemetery care (8). Interpretation could be used more often to stimulate understanding, awareness, and appreciation of cemetery values, and as a site management tool.

Constraints

Nontraditional uses of cemetery land, i.e., other than as the designated grounds for burial purposes, are subject to numerous constraints due to societal norms, beliefs, traditions, and laws. Some key concerns include the controlling voice of lot owners; the rise in vandalism; use of adjacent land holdings slated for future burials; cemetery rules and regulations; public attitudes; and historic preservation (1,2,6). Although nontraditional uses often do occur, social objection to such <u>planned</u> uses may be the most basic

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**Lois Mittino Gray, Naturalist, Spring Mill State Park, Mitchell, IN. 47446.

constraint (6,9). Thus, the use of cemeteries as interpretive resources may necessitate (among other things) obtaining lot owner permission, working closely with site managers to determine, plan, and schedule compatible uses, and assessing community acceptance of the activities.

Compatible Interpretive Uses

There are numerous choices among personal and nonpersonal cemetery interpretive services that could be compatible with a multiple-use concept. On-site and outreach programing selections based on cemetery resources may include: thematic interpretive tours; gravestone rubbing and living history demonstrations; publications and exhibits; interpretive trails; newspaper and other media segments; and linkages with area bicycle and hiking trails. The selection of services would be partly based on the age of the site, ownership or control, layout of the grounds, and public desires (11). Conflicts with traditional uses can be resolved, in part, through planning, scheduling, and zoning of activities. A number of cemeteries associated with outdoor centers, parks, and urban and rural areas are used for interpretive programing and environmental studies (4,7). Yet, the interpretive potential of cemeteries nationwide has been largely underexplored, and many more sites could conceivably support compatible interpretive uses.

THE HAMER CEMETERY: A CASE STUDY

Orientation

One successful approach to exploring the interpretive potential of cemeteries is illustrated by the programing offered at Spring Mill State Park near Mitchell, Indiana. In the park's Hamer Cemetery, several compatible uses create a blend of cultural and natural interpretation. The location was first used for burials in 1832 and at the present time remains an active cemetery for relatives of the original settlers buried there. Since 1975, interpretive tours of the cemetery have been presented to the public between April and October. Related cemetery interpretive services include: conducted bird hikes emanating from the cemetery area, a walking tour brochure, auto tours to other area cemeteries, newspaper columns on cemetery lore, and television program segments on cemetery-associated topics.

Implementation

The interpretive tour of the cemetery has become one of the most popular programs at Spring Mill. This tour is usually offered on the day following a candlelight tour of the park's pioneer village to give visitors the opportunity to relate the natural and

cultural history of both sites. Most of these tours (about six per season) are conducted on Sunday mornings and the attendance averages around 55 persons representing various age groups. School groups and scout troops often request this program when visiting the park, especially those studying Indiana history.

Some of the topics highlighted during the tour include: 1) pioneer burial traditions; 2) history of the village settlers buried there; 3) social, medical, religious, and philosophical aspects of pioneer life; 4) epitaphs; 5) gravestone symbols and their meanings; 6) stonecarvers and stone composition; 7) plant lore; 8) cemetery ecology; and 9) tombstone rubbing methods. One general theme which integrates all of these topics is comparing and contrasting our present lifestyles with those of the village settlers over one hundred years ago. Selected subjects from the above partial listing are covered in tours lasting from 45 minutes to one hour. This time period allows for idea exchange, a session for visitor comments and questions, and an informal hands-on skills workshop on gravestone rubbing techniques.

The inexpensive cost of the program and its increasing popularity make it a vital part of the overall park interpretive plan. Rubbing demonstration materials, reference books, and group project worksheets comprise the tangible program costs. Rubbing waxes and rice paper are purchased from Oldstone Enterprises in Boston for demonstration purposes, while participants use chalk, charcoal, jumbo crayons, and onion skin paper in making rubbings during the workshop. Preparation time must also be considered as an integral part of any program budget. Approximately 20-25 hours of initial research time was devoted to perusing county histories, park records, textbooks, and current literature on the subject. Subsequent resource gathering has been an ongoing process during the five years of the program's existence.

Evaluation

After five years of offering this interpretive program, there is no doubt that it is one of the most popular services at Spring Mill. This popularity may affect the future of the program, however, due to the impact of such heavy visitation on this delicate area. Many of the older tombstones are fragile and their bases are unstable and cannot withstand the pressure applied when rubbing. The interpretor must make sure that the stone is stable for rubbing and that no crayon or wax marks the stone's face. The increased amount of rubbings being made has helped to cause more instability and damage to some of the stones. In the future, program attendance will have to be limited so that the interpretor can insure that participants have selected a proper stone and are careful with their rubbing materials.

The program's objectives are met as determined by participant comments during and after the program and actual demonstration of the newly acquired rubbing skills during the workshop portion. The program does give the participants a feeling for the condition of life in the pioneer era and an appreciation of their lifestyles today.

GRAVE CONCERNS FOR THE FUTURE...

Trends and Patterns

Burial systems of the future may differ greatly from present-day practices due to the decreasing availability of land. A trend may develop toward creating cemeteries with multiple-use in mind. Some urban planners predict that the use of vertical multi-level repositories will become the norm (10). Many rural cemeteries are now deteriorating from neglect and increased vandalism, and their fate is in question (2). The cemeteries of today may eventually represent even more highly significant museums of natural and cultural history as moves are made toward creating more sterile, compact burial places.

Needs for Further Study

The use of cemeteries as interpretive resources is a relatively new concept in interpretation, and several basic areas for research can be suggested. These include: 1) a more thorough knowledge of burial ground laws and constraints; 2) traditional social norms, beliefs, and customs, and attitudes toward nontraditional uses; 3) classification of compatible uses and how to regulate incompatible uses; 4) motivations and perceptions of cemetery visitors and non-visitors; 5) relative demand for cemetery interpretive services; 6) significance of cemeteries as unique natural areas; and 7) grave marker conservation/preservation methods. Additional research into these and other areas would help to build a strong fact base upon which to base interpretive services planning and implementation.

SUMMARY

The potential significance of interpretation in cemeteries, graveyards, and memorial parks should not be overlooked. Where feasible, interpretive services may aid in enhancing public awareness of the natural, cultural, historical, social, and preservational values of such sites. Although there are various constraints associated with nontraditional uses, there are compatible interpretive uses which could be incorporated into a cemetery management program. This concept has been successfully demonstrated at the Hamer Cemetery in Spring Mill State Park near Mitchell,

Indiana. The importance of interpreting historic and other graveyards may become more widely recognized and accepted as new burial practices are brought into use and if multiple-use of new and existing sites becomes more common.

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"SCIENCE"

TAUGHT THE NATIVE AMERICAN WAY

by

Eunice J. Hendrix, Naturalist

Ann Arbor Public Schools

I must begin by briefly defining the "why,"? "so what,"? and "who"? elements of the Peart Wood's model of the Interpretive Planning Model. This is necessary because Native American "science" is not just a subject in a school day, but a way of life for every school community.

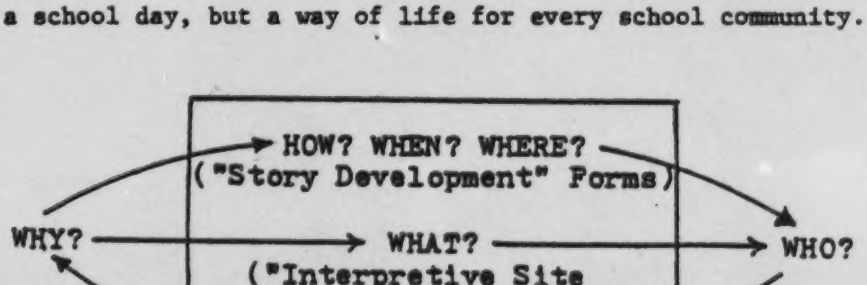

Figure 1.-- The Interpretive Planning Forms comprise a unit within the Peart and Woods (1976) planning framework (2,7).

The "who" is the interpretive naturalist, outdoor educator, field biologist, neighborhood volunteer, or any citizen of the school neighborhood.

The "so what" is part of being alive, and is any caring person who accepts a leadership role as a naturalist teacher. It is anyone who wishes to teach a new conceptual environment of our earth, which will help us survive and will counterbalance our present overdependence upon technology.

The "so what" is, above all else, the process of thinking and acting any individual may do. It assumes an individual's reaction to a pollution problem in the school neighborhood. Built into this ap-

proach to science education is a faith in both the individual's ability to improve his local environment--and faith in a neighborhood community being able to organize and speak out on their local environmental issues.

The "why" is, obviously, to survive!

Implicit in planning for the "who," "so what," and "why" is the creation of a new conceptual environment or way of thinking about our earth . It includes providing new "eyes" to our young people to see our earth environment.

This "new" conceptual environment is actually thousands of years old. It is based upon natural areas being established on public school sites by the neighborhood community. This planning is <u>not</u> based upon public agencies, politics, or technology or federal grants, but upon grass roots neighborhood action.

This "conceptual" environment of earth will be taught, <u>not</u> by theories, social philosophies, or subject matter, <u>but by the land itself!</u>

Through the setting aside of a piece of a natural world--where teachers, parents, and students are equal before natural processes--our youth may begin to develop this "new" conceptual environment of earth that was held by the Native Americans. This conceptual environment will be developed in our youth by a simple individual to land relationship.

By the deliberate neighborhood community action of developing or setting aside some natural land no matter how small, all of us will have a place to be humble and to wonder.

These pieces of Earth Mother shall be "critical habitats" for man, an endangered species. To the degree that such islands of green are set aside by neighborhood activism, so shall our true respect for natural diversity be measured.

For these tiny natural areas are also critical habitats for a diversity of non-human species. We know that in greater diversity there is a better, healthier environment because there is balance.

BASIC CONTRASTS BETWEEN EUROPEAN AND NATIVE AMERICAN CONCEPTS ABOUT OUR NATURAL WORLD

Native American	European-(American)
Concepts of Nature's processes accepted by native American societies.	Concepts of society imposed upon Nature's processes.
Concepts of "science" not separated from nature. Assumed to run together in balance.	Concepts of science separated from Nature assumed mankind would subdue the earth.
Generalized Concepts	Specialized Concepts
Native American "science" stressed relationships, processes, integration, reciprocation, cooperation.	European-(American) "science" stresses systematics, separation, segregation, definition, compartmentalization.
Concepts Circular	Concepts Linear
Natural events → beliefs → taboos ↔ ceremonies	Natural events → greater and greater separation of science and the church.
Natural events, natural history led to → beliefs → taboos → ceremonies → individual acceptance and respect for "science."	Church (religions) absorbed and took over emotions, existing mysteries, wonder, awe, humility formerly naturally held by native Americans or primitive people and separation of church and state occurred. European-(American) "science" has proceeded to an almost absolute faith in technology wherein respect and awe for nature, therefore science, have vanished.
Cooperation	Competition
Community	Individualism
Respect for nature.	Fear of nature, and wilderness.
"Science" or nature based in religion.	Science and/or nature separate from religion.
Mankind not separated from nature.	Mankind separated out from nature.

The public school-owned land through human use can integrate science and people once again to a "neighborhood" ethnic and a common concern for Earth. The "Tragedy of the Commons" can be the "Potential of the Commons."

The public school natural area will make of every school land a community nature center. Here, students may experience nature through their senses, art classes can "see" art in nature, history classes can study the history of the land use, biology classes can identify and classify to their heart's delight and social studies courses may see a practical application of land use planning. "Science" education will become a way of life and not just a 50 minute class period.

This piece of a natural world will be "seen" by some as a static, measurable, controllable, identifiable, manipulated place. By others, this place for the natural environment will be seen as a dynamic, changing process in which they play a positive part.

Above all else, the deliberate setting aside of a place on earth that is the staging area to create a land ethic is probably the greatest step forward our society can take towards assuring future generations a home on earth.

This step "forward" has historical roots for it is based upon the gift of the Native Americans which was their conceptual environment of Earth Mother.

It shall be necessary for our society to balance out the unitization, packaging, corporatizing, boxing-up specialization commodity approach we have used to "sell the earth and all that's upon it" with a respect for the community or common good as expressed in the community natural area.

It shall be equally necessary for our society to view land, not just as a place, but a process of which we are a part.

By the recognition of public school land as "the commons" and by the involvement of a concerned school community, there need be no "tragedy of the commons," but a realization that we, and the land, have been here all the time and land has been an unused textbook.

The "how,"? "when,"? "where,"" and "what?" of teaching science, the Native American Way, are of secondary importance to the planning framework, but there are some important "trail markers" along the way. These would include a policy statement on the educational use of public school land, encouragement of neighborhood citizen activism through

P.T.O. groups, and environmental education legislation which defines environmental education in a simple, practical manner as education dealing with the relationship between people and their public school land, and/or other nearby public land within the school district which has been dedicated by the community and their school district as a land laboratory that is to be used for educational purposes.

The "when" should, of course, be as soon as possible. The "where" should be the public school site or other nearby public land dedicated to educational purposes by the community. The "what" of teaching science the Native American Way can be an educational bonanza beyond our wildest dreams. For the land, when regarded as a staging area to teach a conceptual environment of Earth, may be used to teach all subjects. Art, Biology, Civics, History, Social Studies, Music, Math, and Zoology are all subjects that the community public school land can help to teach.

And, as a Grand Finale to all of the above benefits to our society, we are now able, through doctoral studies, to document the fact that natural areas on public school sites improve the neighborhood community four ways:

Economically
Educationally
Environmentally
Socially

That is a hard combination to beat. The role of the teacher-naturalist or outdoor educator has just begun.

The neighborhood community deserves teacher-naturalists to help them learn about their environment.

Ann Arbor's never Implemented!

SCHOOL SITE POLICY

Trustee Martin, supported by Trustee Pooley, moved to approve the following policy:

The Board of Education recognizes that the educational environment is not limited to the confines of a school building. The Board further recognizes that the teaching of natural processes, ecological concepts, and environmental awareness is a necessary part of the educational program. For this teaching to take place, it is often necessary to have and use areas outside of the classroom where the natural processes can take place. The school site with its existing and/or potential flora, fauna, and geological or historic features is a distinctive, functional and essential part of the total educational setting. As such, it deserves much care and concern.

Conscious effort shall be made at all existing schools and within the central administration to increase the educational potential of each school site. Larger outdoor laboratories showing representative types of natural or near-natural land should be available to the entire school system.

The following policy statements on the use of school sites takes into consideration the efforts of many people and organizations. While all ecological and environmental interest could not be accommodated, major components for good site planning relative to budgetary concerns are listed.

--that all new planning for school sites assure optimum use of natural features of the terrain, vegetation, and sun and wind exposure or other unique environmental qualities.

--that all new planning for school sites and the restoration of occupied sites give full consideration to the recreational, educational, social and cultural needs of the community.

--that citizens from the local neighborhood be involved in the initial phases of planning and the continuous improvement of old school sites and development of new sites.

--that each school site be used as an outdoor classroom to teach environmental educational and the aesthetic appreciation of the outdoor site.

--that all sites selected and purchased for school building construction be developed under the guidance of professional landscape architects in consultation with the Ann Arbor Board of Education, administrators, outdoor educational consultants, teachers, students, citizens, and that it voluntarily comply with the city's land use ordinances.

--that students at all levels be made aware of the necessity to maintain good housekeeping in schools and assigned a responsibility or monitoring an on-going program.

--that environmental education and nature study be integrated into the elementary and secondary science and social studies programs.

--that each new building or alternatives to an existing structure be designed and/or developed in concert with the surrounding architecture and outdoor amenities such as park land, woodlands, and geological constructs.

--that each new building site insofar as possible, meet state and school site standards.

On voice vote, the motion carried unanimously.

November 12, 1975

SENATE BILL NO. 617

Senate Bill No. 617
as prepared by
Eunice Hendrick

September 18, 1979, Introduced by Senators KAMMER, MONSMA, ALLEN, ARTHURHULTZ, J. HART, ROSS, FAUST, SEDERBURG and CORBIN and referred to the Committee on Education.

A bill to amend Act No. 451 of the Public Acts of 1976, entitled as amended "The school code of 1976," as amended, being sections 380.1 to 380.1852 of the Compiled Laws of 1970, by adding section 1171a.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

Section 1. Act No. 451 of the Public Acts of 1976, as amended, being sections 380.1 to 380.1852 of the Compiled Laws of 1970, is amended by adding section 1171a to read as follows:

.617

Section 1171a-As used in this section, Environmental Education means education dealing with the relationship between people and their public school land, and/or other nearby public land within the school district which has been dedicated by the community and their school district as a land laboratory that is to be used for educational purposes.

This education is aimed at teaching a land ethic to our youth. A land ethic enlarges the community to include soils, waters, plants and animals, or collectively: the land. An awareness of the natural processes that occur upon the land, in this case upon the public school land, is essential to the understanding of individual stewardship of the land. Equally important is teaching students to recognize the problems people can cause to happen upon the land because of not understanding these processes, as well as teaching the solutions to these problems.

School land laboratories may range from a corner of a school yard, to a city vacant lot or a long hedgerow. These laboratories may be any size but must be at least a corner 80' x 80', or a strip 80' x 40'. These areas must be either planted to native plant species of Michigan and must include food bearing plants to attract wildlife.

School land laboratories shall be set aside and maintained and/or developed by the school district through the involvement of students, their teachers and the school neighborhood. Land laboratories, set aside by the school administration, shall be regarded as the staging area or place where a land ethic is demonstrated and taught. This land shall be used to enrich the teaching of all subjects, not just "science" and/or "conservation." Here students

will learn first hand about their own cultural and biophysical roots.

The development and eduational use of a public school land laboratory is a prerequesite for state funding for environmental education.

The school district shall encourage the involvement of the school district's neighborhood community in the setting aside, renewal, planting and upkeep of their own public school land laboratory. School land laboratories shall include some land in its natural state, but may also include wildlife demonstration areas, man-made ponds, native tree and shrub plantings to increase biological diversity of non-human species.

School land laboratories shall be set aside for the improvement of the educational, environmental, economic and aesthetic well being of the community. By the creation of a home or habitat for non-human species, the biological diversity of the community will be tremendously increased.

Environmental education using the public school land laboratory shall include knowledge of ecology, and the interaction of events in the natural community which affect the quality of life on earth: environmental contamination, water quality, resource use, preservation and enhancement of natural areas, wildlife conservation and the impact of technology and human population of our environmental heritage.

The State Board shall implement its existing Guidelines for Environmental Education by developing performance objectives as it has for other subjects for environmental education that shall involve the educational use of public school land. These performance objectives will

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THE ROLE OF PARKS IN ENERGY INTERPRETATION: A Model for Program Planning.

JEANIE RICHARDSON

INTRODUCTION

Parks have always reflected the society in which they exist. Cultural values, individual and social goals, and contemporary problems impress their marks upon our parks. During the days of Teddy Roosevelt, the conservation ethic helped to ensure the preservation of some of this country's finest natural areas. During the early 1970's, the currents of environmental awareness influenced legislation to improve the quality not only of parks but also of our daily surroundings: urban, suburban, and rural.

Along with the growing concern about environmental problems and issues comes the expanded role of the environmental educator in the school system and the environmental interpretor in the park system. This situation endowed parks with the ability to actively influence individual attitudes, and gradually, social values. Rather than merely mirroring all of the difficulties of modern American life or simply serving as green islands in a sea of cement, parks, through their interpretive personnel, can teach, demonstrate, and reveal insights about human relationships with nature. Parks now have the challenge to make their own mark on our rapidly changing and confused society.

This responsibility is especially needed with regard to the topic of energy: a natural as well as a social process in our lives. Energy issues are hotly debated today, and their influence does not stop outside park gates. The purpose of this paper is to explore the role of parks in energy interpretation and to suggest a model for interpretive program planning centered around energy issues. Important energy principles will be presented, along with objectives for park visitors, interpretive themes, and related program ideas. It is hoped that park interpretors will be able to apply this scheme to their own particular setting.

LITERATURE REVIEW

Much of what has been written on the subject of energy education has focused upon the school setting. One of the most comprehensive works is a series of manuals for teachers produced in 1970 by the National Science Teachers Association. Their Energy-Environment Sourcebook contains readable chapters on history of energy use, pollution problems, and future energy sources. The series also includes a Mini-Unit Guide and a Materials Guide. The books provide teachers an introduction to the origins and current affairs of the energy crisis as well as ideas for unit development for various grade levels.

Allen et al. (1977) discussed the means by which energy conservation can be accomplished. They suggested that the challenge of energy

education lies in reaching individuals to bring about personal energy decisions. Allen et al. developed an outline of "Main Ideas" (1977 p.15) for educators to communicate to students through integrated course-work.

The above materials are well suited for any classroom. It is also possible to adapt their suggestions to park settings. However, energy interpretation guides designed with parks in mind provide the most appropriate tools for interpretors. The National Recreation and Park Association in 1976 developed the Energy Manual for Parks and an Energy Activity Guide (Stephenson 1976 and NRPA 1976). This Park Project on Energy Interpretation was sent to the field to be applied and evaluated by six park agencies. The major goal of the work was to illustrate that any kind of park--historical, cultural, natural, or urban--could and should try energy interpretation in order to demonstrate to all park visitors the many ways we all consume energy resources.

It is one of the aims of this paper to coordinate the strong points of the above and other energy education/interpretation articles, manuals, and projects. The social awareness and goal-setting of the formal education rhelm can combine with the ecological awareness and flexibility of nature interpretation. The result will be a much more complete presentation of energy in every aspect of our lives. From the above foundation, this paper will elaborate upon topics in need of more attention, discussion, and testing.

JUSTIFICATION FOR PARK INVOLVEMENT IN ENERGY INTERPRETATION

Until recently, park interpreters have been more involved with traditional natural and cultural history, recreation, and "pure" science than with the often controversial subjects generated by social/environmental problems. Now, since most interpreters and many enlightened park managers realize that when it comes to the environment, energy, and natural resources, "most important subjects are controversial" and it is the responsibility of environmental programmers and park agencies to be in the forefront of these issues (Hall, personal communication 1978). But, because of the changing interpretive and educational focus of parks it is worthwhile to discuss reasons why they should jump into the muddy energy waters.

First, parks show the direct impact of the overconsumption of energy and resources that permeates all areas of American society (Stephenson 1976). Today, parks are not islands. They can be harmed by a variety of environmental alterations that may or may not take place beyond park boundaries.

Another justification stems from one of the primary purposes of park interpretation: to help people feel more at home in nature and to appreciate the integrity of ecosystems. With energy interpretation, park visitors have the opportunity to discover the laws of energy and matter and to compare their functions in nature with the manipulations of human society (Stephenson 1976).

As mentioned above, parks have an obligation to help create an informed citizenry. Without a knowledgeable public, the uniqueness and ecological values of the park will not be intact for future generations (Hebst 1979). Therefore, topical issues such as energy should not just fall into the backyards of the news media, schools, or universities. They can be dealt with in exciting ways by parks and affect a broader range of people's experience.

Energy can be a thread to tie together the natural and the cultural elements of the park environment (Hebst 1979). Parks dramatize the flows of energy over a long time(from sun to plants to coal) or over a short time in the way people change their consumption of energy (from prehistoric Americans to pioneers to modern society). Parks also show a variety of patterns in individual recreational use of energy: hiking, biking, tents, trailers, off-road vehicles, camping equipment and gagets.

Finally, parks can make a crucial contribution to energy awareness and conservation by influencing personal attitudes of park visitors. As Allen et al. (1977) wrote, energy conservation can come about by three means: legislative power, societal norms, and/or personal decisions. This latter mechanism is the one which interpreters can set in gear by relevant, interesting, and provocative energy education programs. As the authors further noted, if our current energy and resource-guzzling habits are not governed by the above controls, human choice may be eventually reduced and natural limits will set our direction.

IMPORTANT ENERGY PRINCIPLES

Energy laws are complex and inter-related. This makes the selection of a few concise guiding principles a difficult task. Following is a list of important energy concepts. They should be incorporated into park interpretive programs as thoroughly as possible.

1. "Energy is neither created nor destroyed by any physical or chemical process; it is merely transformed from one of its forms... to another" (Miller 1975 p. 34). This first law of thermodynamics means that a continual flow of energy in its orgnaized form is required to drive both natural and social systems. The second lay of thermodynamics states that no energy transfer is 100% efficient and that with each use of energy, there is increasing randomness or disorder. This is expressed by the trend from low entropy (order) to high entropy (disorder) due to heat released at each step in the energy pyramid (Miller 1975 and Kormundy 1976).

2. An old proverb states "One hill cannot shelter two tigers" (Kormundy 1976). This principle is a spinoff from the above laws. It can be applied ecologically to the lack of left-over energy at the top carnivore level due to the approximate 10% loss of energy at each step of the food web (Kormundy 1976).

3. In natural ecosystems, materials are recycled. The law of conservation of matter, very simply stated, is that "everything must go somewhere. There is no away" (Miller 1976 p. 31). Producers, consumers

and decomposers are the vessels through which all of earth's atoms continually flow.

4. Resources of the earth are finite. Although we may change our ability to utilize resources, there is never an unending supply of materials. No matter if we had a virtually infinite energy source, some other factor would become limiting.

GOALS AND OBJECTIVES FOR PARK VISITORS

Any new angle to a program must decide upon inspirational goals and achievable, measurable objectives. Every park interpreter will compose his or her own set of goals and objectives for visitors to park programs. In the Energy Manual for Parks an important goal is to convey to visitors the message that we all consume energy in many ways (Stephenson 1976). The Energy Activity Guide stresses the ways we use energy both directly (fuel, electricity), and indirectly (goods, services, packaging) (NRPA 1976).

Energy education objectives for teachers and students have been written in greater detail (Fowler 1976). Environmental educators stress the introduction of values and attitudes into their objectives. The aim is "not simply to have people turn off the lights" (Allen and La Hart 1979 p. 35). Rather than making superficial gestures, we should strive to reach individuals with regard to what they believe about themselves in the scheme of life. With this approach the threatening character of energy problems may be reduced and more difficult lifestyle adjustments put into perspective.

Interpreters would do well to further examine these and other education objectives in formulating ones for the park setting. There should be modifications due to the fact that visitor contact is usually very short in duration.

The way we use energy in a park affects the quality of the park environment and our recreational experience in the park. If visitors realize their individual relationship to the park's energy supply, they may better appreciate their individual responsibilities in energy conservation and in future decision-making.

INTERPRETIVE THEMES WITH RELATED PROGRAM IDEAS

Interpreters must achieve the integration of energy topics in many program areas. The following is an outline of major energy interpretive themes with suggestions for program activities:

1. The Patterns and Laws of Natural Systems: Energy Flow and Materials Cycling.
   A. During trail hikes point out the energy fixation abilities of green plants, energy transfers, and energy pyramids.
   B. Do demonstrations to illustrate the importance of nature's cycling--especially the role of decomposers: a hand lens study of the world of a rotten log; life and death in a marsh; plant pioneers such as lichens and moss on a rock.

C. Hold demonstrations of solar energy: cook in a solar oven, build model windmills.

D. During geology hikes discuss the finite supply of minerals and the environmental affects of extraction and use.

E. Utilize slide shows, exhibits, collections, talks, and hikes to convey how the sun's energy is stored in plant material and fossil fuels.

F. Have a Recycling Day to teach people about nature's reuse of materials and how we can improve our conservation of resources. Invite conservation groups and recycling centers.

2. Energy Use in a Cultural/Historical Perspective

A. Use exhibits and audiovisuals to relate the history of fuel use. Make it particular to your park and locale.

B. Conduct activities that trace the story of lighting methods: candle-dipping, a lantern-lit night walk, a campfire built for light.

C. Develop the theme of transportation and energy:a bike hike, horse and carriage rides, an antique car parade. Form shuttles and car pools to and from programs.

3. Energy Challenges Today: Adapting, Conserving, Choosing

A. Hold a campfire program about firewood as fuel: which woods are best, how to cut and store wood, how to tell if you can save by heating with wood.

B. Develop materials detailing energy costs in recreation.

C. Remind visitors how they can conserve energy in the park. The park should try to set a conservation example by cutbacks on mowing, smaller vehicles, passive and active solar design.

D. Grow a vegetable garden in your park, complete with compost pile, to illustrate solar energy fixed by plants and the recycling of nutrients.

E. Have a program on energy-wise "Keeping Cool" ideas.

A SAMPLE CHECKLIST FOR ENERGY INTERPRETIVE PLANNING

Any park has resources to illustrate natural energy laws and social energy problems. This preliminary checklist suggests a way to inventory those resources as a first step in designing energy interpretation tailor-made to an individual park:

Natural Energy Resources

___Vegetation(describe types of plant communities)
_____
___Rivers (Water Power)
___Consumers (detail different food webs)
_____
___Decomposers (both aquatic and terrestrial)
_____
___Weather Patterns (affected by solar radiation)
_____
___Rocks and Minerals (coal, oil)
___The Sun (!)

Cultural Energy Resources

___Farmstead
___Dam
___Gristmill or Sawmill
___Garden
___Greenhouse
___Mine
___Windmill
___Solar-heated structure
___Park transportation system
___Park heating and electrical system
___Park water supply
___Old trolley or train tracks; railroad right of way
___Others:_____
_____
_____

CONCLUSIONS

Parks have a responsibility to become more actively involved in communication about energy issues. With their combination of natural and cultural features, parks are well suited to join in energy education. The next major steps will rest upon the shoulders of the interpretive profession. Objectives, themes, and activities such as those briefly touched upon here must be tested and evaluated. I invite fellow interpreters to try these ideas, to criticize them , and to suggest others. Only then will we be fully prepared to help park visitors appreciate energy in the park and at home, Only then will interpretors become thoughtful leaders seeking solutions to a critical environmental dilemma.

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CHALLENGING OPPORTUNITIES FOR COOPERATIVE INTERPRETATION: LOWELL, MASSACHUSETTS

Over 150 years of history is the interpretive challenge in Lowell, Massachusetts. This site of the first successful planned industrial city in the United States is recognized as the birthplace of the American Industrial Revolution.

Major stories of industrialization, urbanization, technological change, changing working conditions, labor unrest, immigration, waterpower, corporate structure, industrial decline, and revitalization of a city, need to be told, Who will tell these stories, and many others, in Lowell?

In Lowell, agreement was reached that who tells the story is not as important as that the story be told. Lowell is an attempt, so far successful, of cooperative management, protection, preservation, and interpretation, on a large scale.

Active participants include:

Lowell Heritage State Park -- State
Lowell Historic Preservation Commission -- Federal
Lowell National Historical Park -- Federal
City of Lowell -- Local Government
Lowell Museum -- Private Organization
Chamber of Commerce -- Private
Human Services Corporation -- Private
Community Teamwork, Inc. -- Private
University of Lowell -- State
Lowell Historical Society -- Private Organization
Lowell Art Association -- Private
Lowell Regatta Foundation -- Private
Lowell, Dracut, Tyngsboro State Forest -- State
Other Private Organizations
Many Interested Individuals

In times of budget and personnel restraints, are cooperative interpretive endeavors possible and useful? We have found in Lowell that the job can be done so the visitor has a quality interpretive experience from a variety of coordinated sources.

There are many potential problems to solve in cooperative interpretation, however. This presentation will attempt to answer questions that professional interpreters may have in establishing major cooperative interpretation programs, and how the panel would suggest you avoid the problems encountered in the evolving Lowell experience.

Interpreters from state, federal, local, or private organizations should understand the differing perceptions their organizations may have toward cooperation. Through an understanding of the possible pitfalls, strategies can be developed that can result in successful cooperative interpretation. Failure to understand these differing perceptions, and deal with them, can slow or kill cooperative endeavors.

LOWELL HERITAGE STATE PARK

In 1975 the Commonwealth of Massachusetts established this park in Lowell that has primary responsibility for hydropower interpretation and recreational boating programs on the canal and river system. The first of a series of heritage state parks throughout Massachusetts, this area will serve as a guide to future establishment and development of related areas.

National and state park rangers cooperate closely at the operational level. Training of interpreters for both parks occurs at the same time, and total staff integration occurs in specific interpretive areas. Informaton/orientation services are provided by field interpreters from both parks under a single supervisor. Conducted tours are also presented by people wearing two different uniforms, with coaching and evaluation in each tour-type work group provided by a single supervisor. National park supervisors operationally direct and evaluate both state and federal interpretive employees. Conversely, state supervisory rangers evaluate the tours of both national park and state park interpreters in some program areas.

This close integration of field interpretive staffs has proven to be very workable and understandable.

There are problems. Communications at the interpretive management level for planning, staffing, training, and funding appears to never be adequate. The state and national park work in different fiscal years, one starting in July, the other in October. This can be critical in visitor season staffing and funding decisions, as well as tricky. The phasing of decisions in the two organizations is not the same, resulting in one or the other being ahead or behind in planning and thus, in implemenation. The good part is that so far it has all worked out in the end, the bad part is the misunderstanding that occurs in the process. Only close communication and continual follow-up on the part of both organizations can assure that such a situation progresses as satisfactorily as possible. Unfortunately, it may be impossible to even approach perfection, but as long as the programs get on the street, then it worked.

Another problem area is that of perception in the organization. Where one group is larger than the other, better staffed and funded, the smaller group can feel overwhelmed by the larger. The term we use around Lowell is "swallowed up." This may sound trivial to some, but active response is required to alleviate this perception to allow successful cooperative interpretation to occur.

Total staff integration into functional operating work groups helps, the identical good, or poor, working conditions, duty assignments, supervision, and recognition, provides an organizational atmosphere that can lead to good morale and comaraderie when sufficient hard work by all is provided. All is by no means perfect, but the organizational structure is present to allow the supervisor to work his/her magic with the group.

The "swallowed up" perception can also be addressed in the field on conducted tours. Interpreters from both organizations identify their own affiliation and briefly explain to the tour group the cooperative nature of interpretation in the City of Lowell. The public tends to find this interesting, but not terribly important to themselves. They are more concerned with receiving a top quality conducted tour. More importantly perhaps, the larger organization provides recognition to the smaller organization more often than the other way around. This helps the perception of being "swallowed up" to some degree. If you do cooperative interpretation, shout it to the rooftops. It helps.

There are, of course, other problems, misunderstandings and major successes associated with cooperation between the two parks in Lowell.

Lowell is not so simple, but more like the web of life, or web of cooperation. Every group seems to interact with every other group to some greater or lesser degree.

LOWELL HISTORIC PRESERVATION COMMISSION

Officially beginning operations in January 1979, the Commission has responsibility beyond the normal functions of federal agencies involved with historic preservation. The Commission devises plans that make preservation by the private sector feasible in the historical area surrounding the park, and helps to sustain the culture and tradition of Lowell to create a "living park" for visitors and residents.

In the long term, the Commission will develop certain historic properties in the park that will be staffed by national and state park interpreters.

Presently the Commission has entered into several interesting areas. The first Lowell Conference on Industrial History was coordinated by the Commission this past spring. Scholars from across the country, participated in this three-day conference at the University of Lowell.

Free professional theater will be appearing in Lowell this summer. Sponsored by the Commission and the state park, a new outdoor stage will feature five weeks of performances of "A Funny Thing Happened on the Way to the Forum," and "The Fantastiks," by the Merrimack Valley Regional Theater.

The Commission also assisted in coordinating and sponsoring the lease, rehabilitation and operation of a 1915 vintage passenger trolley for transportation on some park tours.

The trolley itself is a physical manifestation of successful cooperative endeavor in Lowell. The trolly works, and carried some 12,000 visitors in June alone. As an example of the organizations involved in a cooperative project, critical assistance was rendered by: The Boston and Maine Railroad, Courier Corporation, Wang Laboratories, Mobil Oil, Lowell National Historical Park, the Strasburg Railroad, Lowell Historic Preservation Commission, the City of Lowell, Lowell Heritage State Park, and others. One project, impossible without cooperative agreement and implementation.

The Commission assists numerous private organizations and is continually expanding its role.

Problems and pitfalls identified in Commission cooperation will be expressed at the panel discussion.

Cooperation is required for successful operation in Lowell. The numerous agencies and groups involved, and examples of success and failure are too numerous to mention in this paper. The panel discussion at the AIN Workshop is designed to present items of interest to participants.

The honeymoon is still in progress in Lowell. Cooperative management and interpretation is working, even with a few warts and bruises. We wish to share our problems and the mistakes we have made, and are making, with you, so that you may avoid similar problems in your attempt at successful cooperative interpretation. The future is bright if we pull together, perhaps dim if we don't. The future is bright in Lowell, Massachusetts.

PANEL DISCUSSION PARTICIPANTS

Nelson Obus - Interpretive Specialist,
Department of Environmental Management, Commonwealth of Massachusetts

Lewis Karabatsos - Director,
Lowell Museum Corporation

James St. Claire - Cultural Affairs Director,
Lowell Historic Preservation Commission

Brian J. McHugh - Chief of Visitor Services,
Lowell National Historical Park

USING THE ARTS IN INTERPRETATION

Tim Merriman*

WHY USE THE ARTS IN INTERPRETATION?

As I look back at seven years accumulation of books oriented toward interpretation in an Illinois state park, I realize how barren the library shelf is in regard to the arts. Like a plumber's kit, my library is a collection of tools. Only a few volumes on the shelf qualify as provocateurs, capable of lighting a small flame of interest in a mind ,water-logged with the rains and floods of questions, paperwork and interpretive trivia. Sharpe's text, Interpreting the Environment[1] proves useful as a reference or textbook but lacks as a source of inspiration. I never cease to be amazed at how Tilden's work, Interpreting Our Heritage[2], lights the fires of enthusiasm again and again. The skillful blend of stories, wisdom of the past, and Tilden's inciteful commentary on the art and practice of interpretation make for interesting reading for a working interpreter. The thinly veiled enthusiasm for the work and art of interpretation is contagious.

Of Tilden's six principles I find the third to stand out as an exceptional consideration:

> "Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical or architectural. Any art is in some degree teachable."[3]

Many interpreters are too captivated by the last statement. Many concentrate solely on teaching and never venture into the creative arts as a participant or facilitator. The arts should be used but not only as scientific curiosities. The art of interpretation can also be a creative field. Blending the arts and sciences in interpretation can be a creative act in and of itself. An anonymous author stated:

> "The society which scorns excellence in plumbing as a humble activity, and tolerates shoddiness in philosophy because it is an exalted activity, will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."[4]

Science and specifically taxonomic skills have been the plumbing of interpretation. With solid skills in naming things many interpreters have faced crowds of visitors, some successfully and others boringly. The lack of a clear philosophy of application has been the undoing of many a skilled scientist-interpreter. An artist-interpreter with no better idea of why he is

ploying his art might have equal results. The pursuit of better interpretation through technique and tools is not solely the answer. We must consider the philosophy of our approach as well as the methods.

Why should the "arts" be fundamental to the "art" of interpretation? Tilden's fourth principle suggests the answer. "The chief aim of Interpretation is not instruction, but provocation."[5] Think about the power of the arts to involve people emotionally and change their attitudes for both good and evil. Stowe's book, Uncle Tom's Cabin, stirred more interest in the question of slavery than any academic treatise. Songs such as "Over There" and "Deutschland Uber Alles" were used in war times to stir patriotic sentiment. For the Indians of the American plains dancing was not just recreation but a necessary communion with the earth and great spirits. In a contemporary setting I have observed thousands of intermediate grade students who hate and fear sharks and other predators far more than the more prevalent dangers of alcohol, drugs, tobacco and automobiles almost exclusively because of the movies and sensational literature that exploits predatory animals. The appeal to emotions seems to win out easily over the rational arguments used so often by teachers and public agencies. We can seek to create emotional interest in interpretation but must avoid the tendencies to be sensational just to impress an audience.

In 1979 I conducted a program on the use of "improvisation" in interpretation at the AIN Region V workshop at Upham Woods in the Wisconsin Dells. I decided to ask a poet-friend from that area to read his fifty minute poem collection, "Poems from the Zoo,"[6] at the beginning of the session. I hoped to demonstrate the power of using an "art" in an interpretive program. The poet, Dan Dahlquist, armed only with his script and a reading stand performed to a hushed silence. Afterwards I asked for comments or reactions and no one spoke for several minutes. One woman finally echoed my own thoughts that the power of the poem and performance made it difficult to talk about it for awhile. Dan had taken us within a zoo and helped us look back out through the bars. He led us on one of the last great bison hunts as both the hunter and the hunted. That performance achieved my one major objective for most interpretive programs. I want the participant to feel different, changed, affected. I want him to view the world differently, more deeply and with greater concern.

WHEN TO USE THE ARTS AND HOW TO EMPLOY THEM?

Many interpreters have already found the arts to be very useful. Living history programs often employ improvisation in showing the life style of historical periods (e.g. Old Fort William in Canada). Puppetry is a growing art in interpretation. It is being utilized at local, county, state and federal facilities. Josh Barkin's puppetry at A.I.N. workshops has inspired a number of other interpreters to try the art. Lincoln's Home in Springfield, Illinois, Hennepin County Parks in Minnesota and numerous other programs have found the ancient art of puppetry to be effective both in provocation and education. Both the writing and reading of poetry is used commonly at some sites. Music and dance that introduces folk culture or ethnic history is employed effectively in many programs. Perhaps the most difficult catch for most interpreters is escaping from the urge to deliver information, to educate, to tell all that can be told in one program. It should be enough to spark the public's interest in knowing or experiencing more but we often cannot bear to stop at "mere art." And yet the emotional experience that can result from an artistic program may be adequate without illuminating discussions of the details, if well presented.

At Giant City State Park near Makanda, Illinois, we have experimented for years with puppetry, poetry, drama, woodcarving (sculpture) and music in interpretive programs. Although the interpreter need not be exempted from being the artist at times, numerous local artists are waiting to be asked to participate. We conducted "Winter Night" programs on themes such as wolves, pioneer life, and winter camping. The chilly winter evenings were made warmer with a combination of night sky interpretation, campfire cooking, a short slide program and poetry readings, all of which centered on the theme. Once a month from April through October we host a bluegrass and old time music program which attracts 30 or more local musicians and crowds of up to 800. We limit the performances to acoustic instruments and encourage the musicians to tell the stories that go with many old time songs. People who attend find out about our other interpretive programs and often return for those of interest to them. Once a year we invite local woodcarvers into the interpretive center area to carve all day and chat with the public. The informal atmosphere with no attempt at instruction has started more than a few visitors to start carving, including our interpretive staff. Our puppetry programs have been successful in providing programs for large audiences of children which could not be accommodated in other types of programming.

Scott-Foresman and Co. has purchased two of the environmental puppet plays I have written which extends our contact audience to tens of thousands. One of the plays on littering encourages youngsters to return to the park to earn an anti-littering patch. The wedding of the play with a park problem has been mutually beneficial. We have used civil war dramas with children by getting local black powder weapon enthusiasts involved as the actors. These were not war dramas to teach historical facts but short dramas to show children how members of the same families sometimes ended up on opposing sides in a civil war. These efforts with the arts have been useful to our interpreters as well as the public. I once felt safest armed with natural history facts and taxonomic slide programs. I am becoming just as comfortable wielding a poem, a puppet, a mandolin or wood carving tools.

Finding arts appropriate to the setting is most important. Whaling dramas in Illinois, Plains Indian dances in Georgia, and mountain music in the plains might be provocative but might also be inappropriate in the particular setting or interpretive period. The resource people for such activities turn up everywhere once you start but folk arts clubs and university drama and speech programs can be good places to begin looking for people to help out. Lightening up on the writing of objectives may also be necessary. The tendency to write easily judged objectives usually means the program will have a cognitive orientation. Knowing the four major forces of nature that created a canyon may be easy to test but not really useful to the interpreter, land manager or park visitor. The arts encourage better observation of life and nature. A person who becomes a better observer of these things will usually be more interested in preserving a canyon through appropriate management.

The memory of the left cerebral hemisphere usually goes to work only after the right hemisphere has had an emotional experience that encourages the total person to want to know more and remember. We can appeal to the "right brain" easier and more effectively in most cases through the arts. Mostly we must remember that "interpretation is an art." The interpreter as artist may need only to be a facilitator of other artists or he might want to get directly involved. It may require learning how to write vague objectives and accept the consequences. At times it might be most useful for the visitor to "feel good about the park," "find beauty in small things," "learn to accept the death of animals as a part of living nature," or just "find enjoyment in a cultural experience at an interpretive program.

Mostly the interpreter must simply let go and be more experimental with programming. Leave the safety of the sciences and find ways to blend the arts usefully with the sciences in a total "whole-brained" approach.

ENDNOTES

[1] Grant W. Sharpe, Interpreting the Environment (New York: John Wiley & Sons, 1976), 566 pages.
[2] Freeman Tilden, Interpreting Our Heritage (Chapel Hill: University of North Carolina Press, 1957), 119 pages.
[3] Tilden, p. 9.
[4] Carl H. Reidel, "The New Forester: A 'Philosopher-Plumber'," American Forests (April, 1978), p. 6.
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Ecomusée; Natural, Historical and Cultural
An Audio Visual presentation and a panel discussion
Dr. A.S.A. MOHSEN (and Panel)
University of Alberta

The ecomusée is a mechanism by which built environment is presented within its traditional setting, either the original setting or a characteristic site. This brings together the natural, historical and cultural characteristics of the environment as a living (dynamic) entity rather than the traditional (static) entity.

Over the past fifty years, the Scandinavian Countries have pioneered work in historic conservation. The open air museum was originally designed to display traditional activities and lifestyles of the country's folks. The idea spread through Europe especially England and France with Ironbridge Museum in Telford (England) and Ecomusée of Marquérze in Sabres (France) as best examples of integrative interpretation of historic environment.

In Canada, Louisbourg in Nova Scotia and Dawson City in the Yukon are two of the few historic sites using the ecomusée concept in their intrerpretation programmes. Recently, two new ventures in integrative interpretation have begun in the province of Alberta. "Trail North"'s first stage was opened in August 1980, and the "Crownest Pass" proposal has been approved.

This presentation will begin with a brief description of two European examples of integrative interpretation: The English Ironbridge Museum and the French Ecomusée of Marquérze. Then, a slide-tape presentation of the Canadian "Trail North" and "Crownest Pass" will follow. Finally, the panel will discuss along with the audience, the advantages of the ecomusée approach as well as problems of planning, management and program delivery. The discussion will focuss on the following aspects of ecomusée:

Economic: tourism, artisanship, merging old and new technologies to raise income levels of individuals and regions

Historic preservation: renovation and restoration of buildings and objects and their use by local residents in their daily activities

Cultural: the traditional arts and crafts, customs, dress and language

Environmental preservation: park trails, sites of special ecological, scenic, and natural historic significance

Educational: a living laboratory extending formal schooling in history, biology, culture ...etc. A source of knowledge for educational institutions, for teaching and research, a basis for adult/continuing education

Recreational: a rich source of recreational activities for residents and visitors. A centre for traditional and contemporary games, drama, arts ... etc.

Community Development: a sense of participation by and involvement of the residents. Fulfillment of economic, social and psychological needs.

INTERPRETING THE COASTAL ENVIRONMENT FROM DRYDOCK

Rosanne W. Fortner*

Interpreters and marine educators have a lot in common. Both have a responsibility to go beyond the field guide or the chalkboard and to translate and relay information to the public, who must decide on the uses of the environment. Both need to look at the environment as a continuum, with what happens on the farm affecting the watershed, and what happens to the watershed affecting the ocean. This requires a view that is interdisciplinary, considering human values, cultures and political systems as well as science.

RATIONALE

More than half of the population of the United States lives within an hour's drive of the sea, yet numerous surveys of secondary school students have revealed low knowledge levels on marine topics even among coastal residents themselves. Leek (7), for example, found in a survey in four coastal states that students in grade 4 responded correctly to 43 per cent of survey items, grade 8 to 34 per cent, and grade 11 to 39 per cent. Tenth graders in Fortner's (2) study in Virginia scored about 49 per cent correct, and her Ohio survey (1) indicated knowledge levels of 38 per cent for fifth graders and 48 per cent for ninth graders.

Recognizing this knowledge gap and the importance of education in the development of a responsible citizenry, marine educators have responded with instructional materials as diverse as the oceanic environment itself. Marine educators from Hawaii to Maine are attempting to reach what is basically an interpretive goal--revealing the relationship between the resource and the public.

It would be valuable, of course, if the public could be brought to the resource. Unfortunately, this frequently cannot be done. We are left then with the task of educating and interpreting off-site, not an ideal situation but a manageable one.

APPROACH

Some of the instructional materials developed through the Ohio Sea Grant Education Program (8) approach the "coastal interpretation from drydock" problem in terms of providing land-based activities involving coastal concepts. A few of those activities are discussed herein as examples of how imagination and ingenuity can successfully "marinate" an interpretive program.

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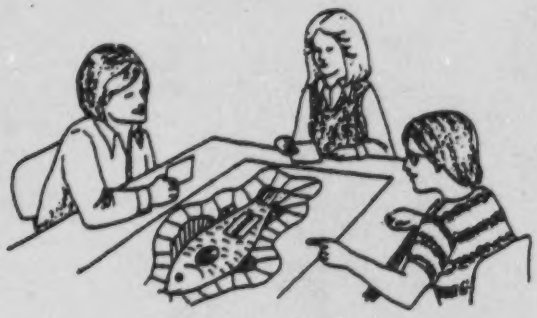
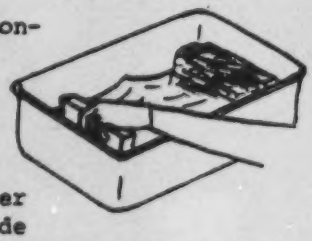
Concept 1: Ecological Relationships

Using as a model the organisms in any local aquatic system, it is possible to reveal the ecological relationships of marine organisms, including the effects of various factors on population size. This has been done effectively in Ohio using yellow perch as an example (6). A board game introduces the perch life cycle and factors which affect perch population size at each stage of that life cycle. This information provokes interest in how a population of organisms can be managed as a resource, and follow-up simulations of fisheries policy development can be used in training programs for resource managers. In addition to providing a learning experience, the game and the associated social interaction provide a recreational experience.



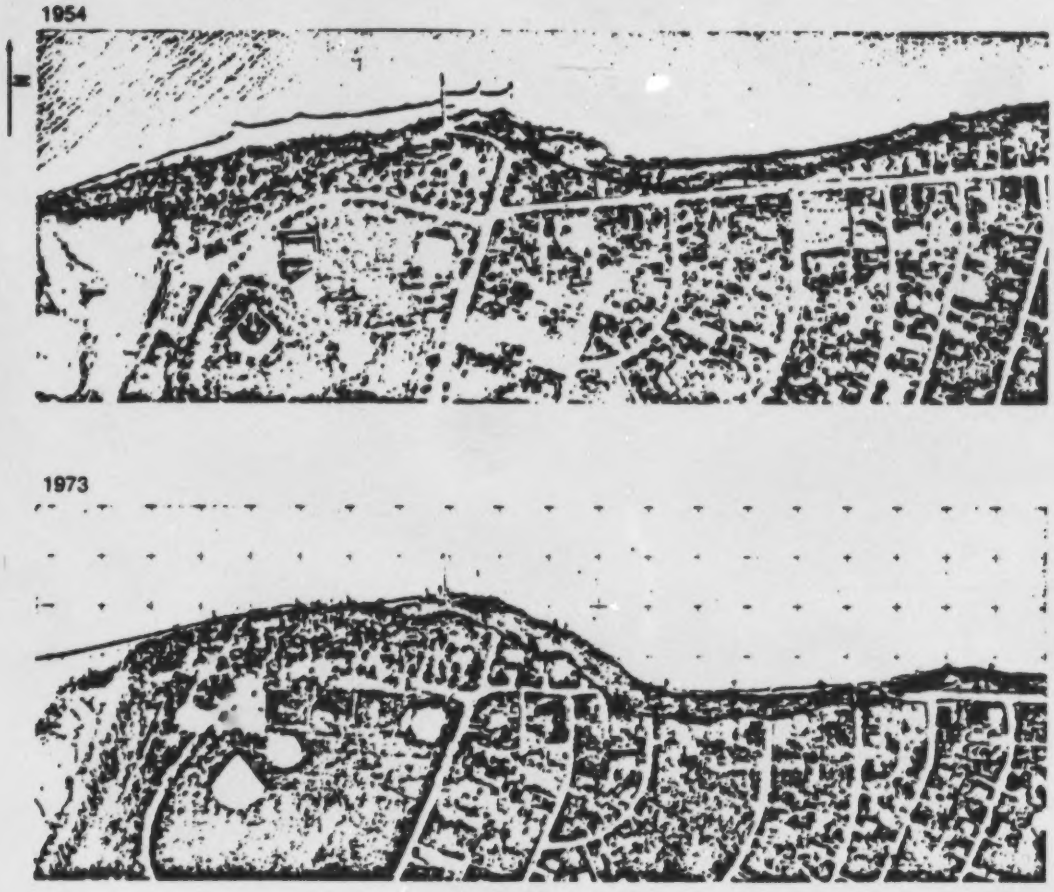
Concept 2: Coastal Processes and Erosion

On the banks of almost any body of water it is possible to point out the effects of wave and/or current action. The processes involved are familiar ones, yet few people are aware of the extent of the problems caused by those processes and the factors which intensify their effects. Even more significantly, there appears to be little understanding of the effect of shoreline protection devices on the transport or stabilization of shore materials (7, 2, 1).



Two types of interpretive displays or demonstrations lend themselves to revealing these concepts to on- or off-site audiences. The first approach employs a low-cost demonstration or hands-on activity in which model beaches or bluffs are built of sand, clay or rock at one end of a plastic dishpan (4). Water in the dishpan is agitated into waves that erode the "shores" at varying rates depending on the shore material used. Models of shore protection devices such as seawalls, breakwaters or groins could also be tested in this set-up to reveal their effect on movement of shore sediments.

In a second method, aerial photographs of a local area can be compared over time to illustrate the amount of change in the landscape. Actual land loss or deposition can be calculated using photo scales for the horizontal distances involved and topographic maps for comparison of elevations (5). The photographs below, for example, could be displayed or overlaid as an example of land loss accelerated by the groins in the center of the earlier picture.



Aerial photos of a portion of the Lake Erie shoreline in Lake County, Ohio.

Concept 3: Maritime Heritage

The Tall Ships of the Bicentennial, increased use of nautical artifacts for decorating, and growth of attendance at maritime history parks and museums are evidence of increasing interest in our maritime heritage. An exciting and inexpensive approach to historical topics might include consideration of the uses of ropes on early vessels and a comparison with modern sailing. The importance of "block and tackle" rigging can be demonstrated through a

participatory exhibit in which increasingly larger amounts of weight are being lifted by varying the rope arrangements and number of blocks used (3). A related "take-home" device that has been tested successfully with people from age eight through adult is a chart of useful knots and a length of rope with which to practice tying them.

IMPLICATIONS

The preceding examples indicate the great diversity of materials adaptable from a marine education origin into a marine interpretation context, particularly with regard to revealing coastal concepts to those in an inland environment. The information and innovative approaches used by both educators and interpreters should become the subject of further communication between those groups. Otherwise, valuable resources may be wasted on "reinventing the keel."

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STONES AND BONES

Interpreting An Old Cemetery

Mike Sherman*

The living come with grassy tread
To read the gravestones on the hill;
The graveyard draws the living still,
But never any more the dead.

The verses in it say and say:
"The ones who living come today
To read the stones and go away
Tomorrow dead will come to stay."

So sure of death the marbles rhyme,
Yet can't help marking all the time
How no one dead will seem to come.
What is it men are shrinking from?

It would be easy to be clever.
And tell the stones: Men hate to die
And have stopped dying now forever.
I think they would believe the lie. [1]

Interpreting an old cemetery becomes a significant experience when the innate sense of wonder and mystery they possess is captured and refined. The task at hand is simply not to muddle the many possibilities these "windows into the past" have to offer. This paper will deal with two of the possibilities, grasping a pioneer mindset and understanding death as a natural and necessary function of the earth's life processes.

No interpretor would dream of entering a redwood forest, schoolyard, or historic site without forest becoming acquainted with the component parts of each. The first step in interpreting a cemetery is to become acquainted with the inhabitants. The archives of local historical societies contain the necessary information. The following procedures can be used to gather your material after the cemetery has been scouted.

1. Copy down death dates from a few prominent tombstones and search old town newspapers for obituaries or stories concerning deaths. Many old newspapers are on microfilm. News traveled slowly in earlier times so allow the paper a few days to catch up to the event.

2. Many archives will have cemetery records that list every-

one, or most everyone, buried in each graveyard. These names are usually cross-referenced to other sources.

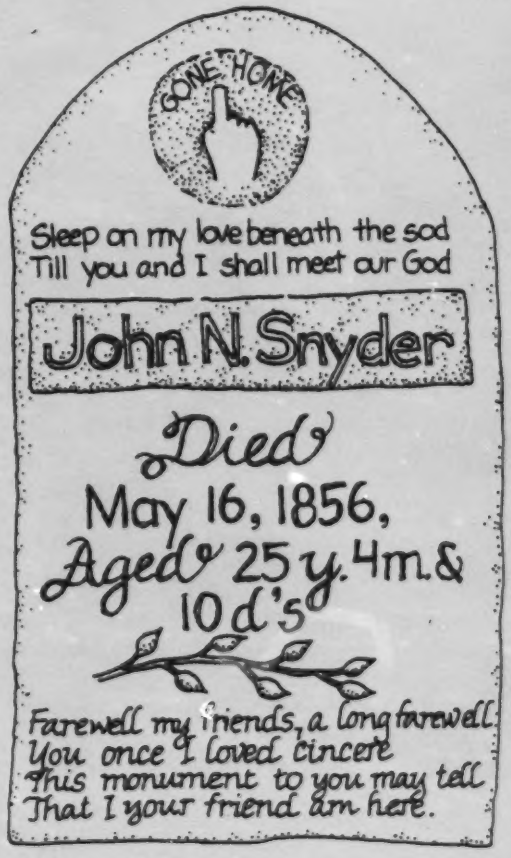
3. Old military records can be used to gather information about anyone whose tombstone indicates a military burial. Many Civil War veterans can be researched in this fashion.

4. Old almanacs or county histories contain biographical sketches of many pioneer personages from hunters to haberdashers.

Information concerning the individuals you uncover is best used when it ties into a broader historical concept that teaches us about an earlier time. The following activities resulted after researching a small pioneer cemetery in southern Ohio.

The Resurrection Of John Snyder

Search your cemetery for a representative tombstone that reveals, or "resurrects" the individual it is immortalizing. Develop a series of questions to ask that leads your audience into the interpretive process. John Snyder died over 100 years ago, but he can be resurrected by working through the following questions.


GONE HOME
Sleep on my love beneath the sod
Till you and I shall meet our God
John N. Snyder
Died
May 16, 1856,
Aged 25 y. 4m. &
10 d's
Farewell my friends, a long farewell
You once I loved sincere
This monument to you may tell
That I your friend am here.

Was he married? Probably, the words at the top of the stone indicate this.

How did he die? His young age and the year of his death indicate the cholera epidemic of the early 1850's.

Was he wealthy? Yes, the elaborate tombstone would have cost far more than the average farmer of the Ohio frontier could have afforded.

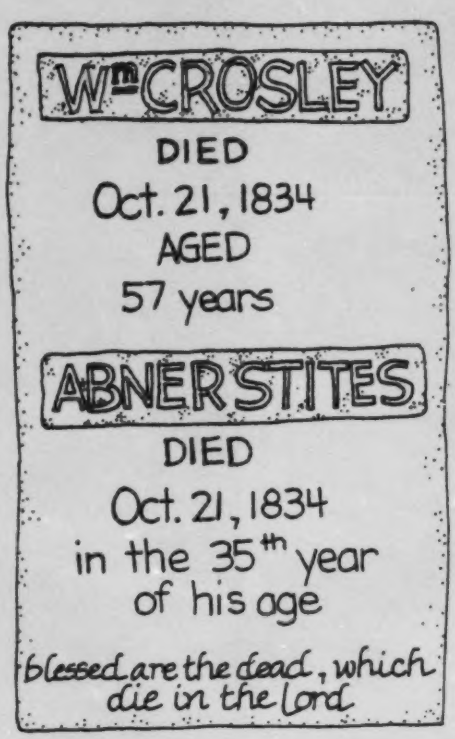
Does the epitaph really teach us anything about John Synder? Not much. Epitaphs were often stock verses the bereaved relatives chose from as a final touch

of sentimentality. The misspelling of the word "sincere" tell us something about the illiteracy of early 19th century America. A close look at most cemeteries will reveal a number of misspellings on the stones.

The Strange Grave Of Abner And William

Many historians have developed divergent theories to analyze the effect of the American frontier or the cultural development of today. Our impressions are tinted by the romantic notions of James Finnimore Cooper and Daniel Boones of the silver screen. There's nothing like a stroll through a pioneer cemetery to acquire a different perspective. Consider the strange grave of Abner and William.

Encountering a tombstone such as this would capture the imagination of the driest history professor. Why are two people buried beneath one tombstone, and how did they come to die on the same day?



To prolong the suspence and to make the most of a teachable moment, it is best to bring your audience into the process again. Have them construct a newspaper article written in an 1834 time frame containing the who, where, what, why and when that could have led to this tombstone. You might not find an Abner and William stone in your cemetery, but a similar process may be worked out for any stone that is the least bit bizarre.

Abner and William were victims of cholera and products of expediency. Coffins, often glass lined for cholera victims, were expensive, so were tombstones. When thesemen died of the dreaded disease, fear so struck the community that they were given the quickest burial possible. The hardships of frontier living simply dictated a more practical application to the problems encountered.

Evidence of this mindset can often be found other places in a pioneer cemetery. Unmarked, uncut fieldstones usually marking the graves of paupers or poorer brethern belonging to the local church or community are a common example. The unanonymous person beneath such a stone provides an excellent subject for a contrived newspaper article depicting his death.

The Ghost Hunt

This activity can provide an interesting overview of any given cemetery and actively involves the participants. The interpreter becomes the facilitator and directs his fellow explorers into a modified scavengar hunt of a cemetery. Each participant is given a list of interesting objects, words, plants, etc. to find that lead to a better understanding of the world of our ancestors. A few examples follow that can easily be adapted to any old cemetery.

1. Find examples of three different religious symbols in the cemetery. What conclusions can you draw about the place of religion in pioneer times? (common symbols are open Bibles, lambs, and fingers pointing to heaven) Church historians recognize a number of "Great Awakenings" in the 19th century. Baptist and Methodist circuit-riders brought the gospel to the frontier before churches were established. These churches often became the focal points of social activity and provided people who knew hardship with the hope of a better world ahead.

2. Find a plant planted by a pioneer. Why was this plant used? (evergreen plants and shrubs symbolized eternity--a comforting thought.) Often yucca was used, and this hardy plant has successfully been warding off mowers for many years. Wandering Jew can often be found in old cemeteries where it escaped from the coffins in which it was placed during burial. Myrtle is another common graveyard plant.

3. What direction do most of the tombstones face? Why? (Many early tombstones faced east, traditionally the way to God and the direction in which Jesus would appear on resurrection morning.)

4. Walk through the cemetery and see if you can discover through death dates when a cholera epidemic swept the area? (In frontier America one man's outhouse drained into another man's drinking supply. This provided an ideal setting for cholera germs, and the pioneer medicine of water boiled under the shadow of a dead pigeon did very little to cure the victims.)

5. Find the grave of the youngest person buried here. (Infant mortality was high.) Pioneers often feared water and did not bathe their babies much as a result. This uncleanliness,coupled with poor diet and medical ignorance resulted in death as a familiar misfortune. Perhaps this is another reason for the presence of religious symbolism on so many early tombstones.

6. Find who the "consort" of Hezekiah Stites was and determine what a consort was. (Consort is an archaic word for wife) Why do so many pioneers have such strange sounding first names? The Bible was often the only book in a pioneer home. One of its many uses was to provide names. Thus, European pilgrims settled the American frontier with Jewish names.

7. Locate the Stibbs Family plot and figure out the family relationships of all the people buried there. (Often 3 or 4 generations are buried in a common plot. By determining ages and death dates, uncles, brothers, grandmothers, etc. can be dicipphered. Family structures just 100 years ago were far more close knit than today. The thought of nursing homes would have shocked many of our ancestors.) How has the changing American life style effected the family unit?

What Ever Happened To Death?

An unfortunate delusion of American culture is the attutude that we are exempt from the natural processes to which the rest of creation must adhere. The following activity is an exercise in values that offers a different perspective on one of life's most natural processes, death.

A rotting log in a forest provides the first corpse. The interpreter asks the participants fo find as many examples of life on the log as possible. Living organisms-insects, moss, fungi, etc. will be found along with signs of life - bark bettle galleries, cracked nuts, woodpecker holes, etc. After an inventory of life on a dead log is completed, it will become obvious that this tree is at least as important to the living community in death as it was in life.

A discussion of decomposition follows with these points emphasized.

1. All of the organisms seen and unseen using this log are recycling the material in the log in a process called decomposition.
2. Since matter cannot be destroyed or created without the unnatural splitting of atoms, it must be used again.

3. The atoms that make up all matter on our earth are constantly being absorbed and released from the structures (men, mice, mushrooms, etc.) they have built. Aldo Leopold, in his classic piece "Odyssey" expands on this idea.

Locate a tombstone with a tree growing next to it and pose the following questions.

1. What is the tree eating? (In our cemetery its Elwood Bowser.) The atoms from his body are being freed up to the land of the living again by the roots of a cedar tree. The whole process can be traced from Elwood to the roots to the berries to a song bird to an owl pellet to the soil to a corn plant to a human and on and on.

2. How do modern burial practices limit this process? (Strict burial laws designed to inhibit the process of decomposition result in the high cost of dying and the containment of atoms that belong to the earth.) Is this right?

A comparison of a modern mortuary or memorial gardens to the graveyards of out ancestors reveals a change in attitudes of death. Gone are the macabre death angles, sorrowful epitaphs, and other markings of a generation that was closely familiar with death. In their place are well-manicured gardens and cool vaults with only names and dates to indicate that death is still with us.

FOOTNOTES

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BAMBI MEETS THE 1980"S:
One Step Beyond "Nature" Interpretation

Alan Mapes, Wendy Repass Suozzo

Are you getting enough "mileage" out of your interpretive programs? Many of us give programs in hopes of conveying a general appreciation of the environment, along with some specific natural history information. We are cheating ourselves and our visitors if we stop there. In light of the current environmental concerns that we face in the 1980's, we must go beyond pure nature interpretation. Can we still afford a simple "trek through the trilliums" without a more intensive look at human influences on the environment? Unless people develop an awareness of environmental problems, they will not understand or support environmental quality controls, or wise resource management.

A good natural history-oriented program can be interesting and enjoyable to the public, yet tie in a resource management or environmental quality message. If the interpreter omits this tie-in, a chance is lost - not only to relate the program to the participants' daily lives - but also to clarify the interrelationships between people and the environment. Achieving the tie-in presents a challenge to the interpreter. How can we bridge this gap between natural history and human use of natural resources?

Let's take an example of a natural history program and see how it could be related to environmental management. A marsh walk traditionally includes a look at the plant and animal residents, their habits and interactions. This is further enhanced by considering the physical characteristics and components of the marsh, and how it is gradually undergoing succession. But the interpreter should go one step beyond the natural history and include the importance of wetlands and the many affects people have on these areas. The abundance of life in a marsh illustrates its value as a wildlife habitat. The benefits of erosion control, flood control and water resource protection can also be discussed as you explore the marsh. Look for signs of direct human influences like filling in, development or dumping of wastes and discuss their effects. If no such signs are visible, describe a human activity that would alter the marsh and have the group consider its effects. The more direct these examples are to the visitors' daily lives, the more they will feel related to the problem or concept.

The interpreter needs to identify some activities or examples that will bring immediacy to his/her message. As part of the marsh walk, you might take a sample of aquatic life. As the visitors get an "eye to eye" contact with marsh life, you can select one or two organisms that are particularly intolerant of some sort of condition. For instance, most mayfly species cannot tolerate a low level of dissolved oxygen and need relatively clean, unpolluted water to survive. You could aquaint the visitors with these creatures and then suggest some human activities that would affect them (dumping of sewage, run-off of farm fertilizer). As much as possible, draw from local or current issues and explore with the group how the entire ecosystem is affected.

Traditional interpretive programs offer the interpreter many opportunities to bridge the gap between a "Bambi" or nature orientation and current environmental concerns. The ever-popular bird walk can include considerations of endangered species, habitat destruction, introduced species (ex. starling), and pesticide side-affects. A trek into the forest can lead to forest management practices and the impact of the forest as a watershed. Instead of taking a simple wildflower walk, you could investigate the many alien plants that have been introduced by people to the area and the benefits or problems these "aliens" have caused. You could also look for protected plants in your area and discuss their special problems.

Whatever the topic, the program should start with the colorful, the interesting and the endearing (Bambi) and build up the interrelationships that sustain and influence this. As the program progresses, human activities can be drawn in more and more. Concrete examples or "hands on" experiences will help to directly involve the visitor. By the end of the program, the interpreter should have provided the visitor with a basic understanding of the resource and the factors that influence it. The interpretive program should not be a hard sell; it can and should be an enjoyable exploration, with a few sobering realities.

The interpretive program that integrates environmental management with natural history must maintain a delicate balance. You want to spark interest and compassion in the visitors, but not overwhelm or discourage them. How much emphasis can you give the environmental issue and still keep the group's attention? This will vary by topic and group, and must be watched closely if you want a truely effective program. Also, try not to end on a note of doom. Emphasize possible alternatives and remedies - whether they rest in legislation, research, or people's daily habits and attitudes.

There are other things we must consider. You would have a difficult time attracting people to a program entitled "Water Pollution". What specific methods can be used to make an environmental issue interesting and relevant to the program participants? Given an immediate problem, how can you provide an interesting, meaningful program to interpret the problem? How far can the interpreter stretch the tie-in to an environmental management concept until it becomes an artificial connection? The techniques of interpreting this tie-in will take time, experience and communication to develop. As we share our experiences as interpreters and managers, we can build towards more relevant and rewarding programs.

As we enter the decade of the 1980's, we must decide what the interpreter's role is in environmental management. Is interpretation of environmental quality and resource management concepts important to our agencies or to us as professional interpreters? Should we go beyond merely describing management techniques and encourage discussion of which technique is most appropriate? We have the opportunity to reach the public. If we provide an enjoyable, informative program that clarifies an environmental issue, we can lay a foundation for wise decision-making. The trend is toward public participation in environmental decisions as this new decade dawns. Let us, as interpreters, include the human factor in our nature programs, and encourage a responsible, involved public.

- Wendy Repass Suozzo

"Bambi Meets the 1980's" will be presented at the AIN '80 conference by Alan A. Mapes, Associate Conservation Educator, and Wendy Repass Suozzo, Senior Conservation Educator. Both work for the New York State Department of Environmental Conservation at Five Rivers Environmental Education Center, Game Farm Road, Delmar, New York 12054

Interpretation and Archaeology: The Excavation of a Holistic New Perspective

Charles A. Hulse
Michigan State University

Archaeologists and interpretors have one major thing in common; that is, their general ignorance of each others methods, goals, and objectives. This is especially unfortunate in that they often work closely together in many aspects of cultural and natural interpretation, and can likewise contribute a great deal to one another. In the area of historical interpretation for example, archaeologists and interpretors regularly interact in the translation of archaeological research into the language of reconstructions, cultural history, and public programming. The results of this interaction often times falls short of what it could really accomplish if both groups had more understanding of one another.

Understanding of each others goal, objectives, and methods is not an easy matter by any means. In the past several decades the relationship between archaeologists and interpretors has been less than friendly due to several factors. One of these major reasons has been the problems relating to historic site development--where archaeological sites (usually military) are transformed into historic parks for the public benefit. Although this development concept is not objected to by archaeologists the means by which it is often accomplished is diametrically opposed to the archaeological viewpoint in many ways. For example, historic site interpretors are often in such a rush to reconstruct and restore the architectural components of a site that sound scientific research on these sites is often totally neglected. The result of this is a site which is nothing but an empty shell of the past rather than a statement about human effort and direction.

In 1968 two archaeologists, Cleland and Fitting noted some disturbing trends in archaeology that was brought on in part by the rise of the field of historical interpretation. Among these trends was the misuse of archaeology for non-problem oriented research and the sprouting of numerous historic parks which resembled nothing more than carnivals. Those trends that were recognized ten years ago are still with us today. Interpretors who lack a clear understanding of archaeology as anthropology are still making decisions that jeopardize or destroy archaeological sites for all time just for the sake of an "enhanced recreational experience".

Just as interpretors are ignorant of the discipline of archaeology, so also are archaeologists unaware that the field of interpretation even exists. Occupied with the creation of voluminous reports fit for consumption only by other professionals, archaeologists

often times are completely unconcerned with transmitting their knowledge and information to the tax payers who "foot the bill" for their research. Public programming is regarded by most archaeologists as a means for justifying their existence to granting agencies, rather than as a contribution to the people at large. This unforgiveable arrogance results in jargonized reports of little value to anyone lacking a PhD. in anthropology. Such "trivalities" as public programs, tours, or educational workshops is beyond the range of many professional archaeologists who content themselves only with "pure" research.

Although this image of archaeologists as academic hermits and interpretors as naive tour guides is a bit far fetched, it is closer to the truth than each would care to admit. Clearly, archaeologists must learn to use their knowledge and information for the benefit of the public just as interpretors must recognize the methods and goals of anthropology for that same objective. Both sides must realize both the value of scientific problem-oriented research and the dissemination of that knowledge to the people through interpretation.

Anthropology, of which archaeology is a subdiscipline, is a social science which studies the interrelationship of people with their environment. The ultimate goal of this study is to uncover and understand patterns of culture that are common between all peoples past and present. Although the methods of anthropology are as varied as the people which do research, the archaeological community is particularly well versed in people/environment relationships--both in the past as well as in the present. For this reason, archaeological method and theory has grown at a tremendous rate in recent years due to this great diversity of subject matter with which it must deal. The paradigms of the past which has examined in light of Kuhn's (1962) philosophy of social science shows the links between theoretical perspectives and the borrowing of information from other disciplines. No knowledge is the single possession of one discipline, rather it is a contribution to all fields of research and inquiry. All that is needed is for individuals to adopt the work of other disciplines to fit the paradigms of their own.

The field of interpretation, whether a subdiscipline of parks and recreation, social-psychology, or communication is rapidly changing in orientation. Its emergence as a social science has in part been due to its borrowing of methods and theories from a wide range of academic areas such as sociology and psychology. This borrowing of research methods and theoretical perspectives is natural and normal for a young discipline in a state of change. The major danger here is that interpretation as a academic field in its own right must soon begin to form its own synthesis of theoretical knowledge. The chances which are developing now in interpretation are amazingly similar to the "new archaeology" revolution in the 1960's. The formation of paradigms, normal

Science, puzzle-solving, and crises which Kuhn (1962) postulates for other disciplines are yet to be seen in interpretation, although the rumblings of change are almost upon us. In order to recognize where we're headed it is often useful to look at where others have been. A better understanding of archaeology by interpretors may be one means by which mistakes of the past can be avoided in the future. Given the similarity of interpretation now, with archaeology in 1960, I feel that many useful comparisons can be made between the two from a theortical level. Unfortunately this paper cannot accomplish that feat due to its brevity, though it can suggest that the material is available and relevant to those interested in the formation of theory.

From a more pragmatic viewpoint, archaeology has a great deal to offer (and to receive) from greater interaction with interpretation. For example, since these meetings deal with the integration of cultural and natural interpretation a logical base of information would come from a discipline which practically and theoretically must deal with both. In the past, the grist for the interpretive mill has come from such fields as botany, biology, ecology, and history--the latter of which is mistakenly used soley for the basis of cultural input. Unfortunately, none of these areas are comprehensive in perspective. The hard sciences deal primarily with natural phenomena, while science/art of history is somewhat naive in both natural and cultural intricacies and interrelationships. This is not meant as a criticism of these disciplines for they are useful and relevant in their own right. Rather, it is a recognition of the limitations which place constraints on the adoption of these information bases for interpretive puropses.

Although anthropology and archaeology are also imperfect sciences they are of relevance to interpretation because of their holistic approach to both people and nature and the understanding of the influences of each upon the other. For example, the interpretation of an historic site to the public cannot content itself with the simple portrayal or enactment of the people and events which characterized the site through time. This historical perspective is limiting in that the underlying reasons for these phenomena is never fully investigated or presented--giving a rather distant and hollow representation of the site. If however the site is viewed from an anthropological perspective, the people, buildings, events, etc. are regarded as only a part of the whole; the rest of which are the physical, social, economic, and political environments which also exercised major influences on the site through time. The constraints of technology, food production, biological endurance, and the social condition must be fully integrated along with the history to give the present a true semblance of the past.

This perspective provides a data base for interpreting the natural environment along with the cultural manipulations of it in a holistic manner. Natualistic interpretation is enhanced when it can be humanized, and related to the public in terms of how a particular species of environment was dealt with by others from a different time

or place. When it comes to information on Native American peoples for example, the literature of anthropology abounds with detail of how they used their natural environment and how their culture was integrated within it. The same can be done for all people and all times using this holistic approach. Neither purely natural or purely cultural interpretation can present the total picture of life. Only when the two are combined can the culture of a people be truely presented in an accurate manner.

From this perspective it is a small matter to develop interpretive programming which is holistically oriented. At historic sites the traditional forms of interpretation such as reconstructions, reenactments, role playing, living history, etc., can be easily combined with the research results of anthropological archaeology. Many of the by-products of archaeological research are ideal sources for interpretation which is holistically oriented. Along with traditional interpretive programming can be included cultural perspective which places the site in a broader context. In addition, such information as the ethnobotany and zo-archaeology of the site can be used to faithfully portray the diet and food technology of the site. The rise of "traditional gardens" or food-crafting practices at many historic sites has ultimately begun from the information derived from the historical archaeology of the site. An active program of archaeological research is often the basis for the most innovative methods of interpretive programming. The recent interest in technology(crafts) at historic sites has also originated in part because of the information gaine through archaeological programs. In order to avoid the conflicts of the past which have developed between archaeologists and interpretors/developers, these by-products of research must not be viewed as the sole goal of archaeology. They are only varied pieces of information which can be used by archaeologists to put together the puzzle of the past.

Clearly, archaeology and interpretation must be linked together in order for people/environment relationships to be presented in a meaningful manner. Neither pure research nor pure programming alone can benefit the public to the fullest extent. The cross pollination of interpretation (both historical and otherwise) with an anthropological perspective will result in a broadening of both interpretive theory and the data base from which it draws.

The access to anthropological and archaeological theory can be achieved through many means, easiest of which is through archaeologists and anthropologists who are sensitive to the public dissemination of their research. In times of having to justify research into the past, increasing numbers of archaeologists are seeking-out the means to publicly support their existence. Perhaps this need for public output of research information will force archaeologists to apply their data to public programming efforts.

In summary, archaeology and interpretation have a great deal to contribute to one another in both the formation of theory and the

application of research for the public good. All that is needed now are members of both fields that are open enough to explore and share new ideas and new perspectives. Interpretation which thoroughly integrates both natural and cultural information into a unified body of knowledge is now needed. The specialization of interpretation into natural, cultural, historical, urban, etc. is often biased in orientation to such an extent that a clear picture is never truely presented. The use of an anthropological perspective (on both the past and the present) can help to unify interpretation so that a broader and more accurate base of knowledge can be presented to the public. If this is accomplished, maybe "new interpretation" will emerge in the paradigm of the future.

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PUPPETS: INTERPRETING THE PARK RESOURCE

Brian E. Forist
Indiana Dunes National Lakeshore

Barriers! We as humans are so good at constructing barriers in places where there was probably never any intention of doing so. We separate the human environment from the natural environment, the mind from the body, theory from practice, and on and on. Even those of us who have chosen to communicate our need for doing things in an holistic fashion are known to create barriers within our field.

For instance, we draw the line between the interpretation of cultural history and natural history. In reality (now there's a big statement for you -- let's say in my potentially distorted view of reality) our cultural and natural heritage combined form our very sustenance. We must remember that humans, after all, are just one more critter found inhabiting this earth. Our edge over others is our ability to choose --- and its comforting to see that we, as interpretors, are making conscious choices about our communication techniques. Many of us choose to model our techniques after natural systems, integrating our cultural and natural history to create a complete package. One potential technique for doing this is puppetry. Please bear with me -- I'm no expert -- but I am a person willing to share my ideas, feelings, and frustrations so --- here goes!

For starters let me defend puppets in general and then deal with actual practice. Puppets have the potential to be very powerful --- they allow us to delve into fantasy in our pursuit of reality. We all recognize that "Sesame Street" is a central part of our society, and the techniques used there can be adapted and improved upon to effectively interpret park resources.

Children and adults (whether they admit it or not) love puppets. Most folks will listen to the message of a blue-haired park ranger or a lime-green alien more readily than they would submit themselves to the arduous task of paying attention to a mere human. The messages we as interpretors find ourselves charged with conveying are of such great importance that they deserve proper creative treatment. Puppetry might well be one such creative treatment given to some very special ideas.

Indiana Dunes National Lakeshore is basically an urban park in which the cultural and natural resources seem to melt into one. The stories we tell are those of land use (by humans as well as other beings), land misuse, and the present need to carefully protect the land. These are stories of choices, informed choices, both for ourselves and for those we share the world with that cannot speak for themselves (at least not vocally). Puppetry is one way we have found to effectively tell these stories and to inform visitors, in a non-threatening way, of their responsibilites in protecting the park resource.

Our puppetry program has three facets. We perform shows at the Lakeshore Visitor Center on a monthly basis with the intent of attracting little people and their families to the park and orienting them to the very special nature of this place. We use puppetry as a form of outreach, performing in local communities and informing people that the National Lakeshore exists very near home, while at the same time orienting them to parks and what they're all about. We also use puppetry as part of our environmental education programs in order to introduce ideas we will investigate in detail once in the field.

So much for this orientation business --- what, in actuality, do we do? How do we communicate the stories of land use, misuse, and proper care, and at the same time deal with the barrier between cultural and natural history interpretation? The best I can do here is offer a few specific examples. Introductions are in order.

Meet Selwoc --- close your eyes and conjure up the image of an alien from the Planet Dunas (see, it starts by blatently breaking into a fantasy world). Selwoc is a pioneer from spaces beyond with a special mission -- to learn about earthlings and how they live. He has ultimate innocence ... he knows nothing of life on earth. With the perspective of an outsider looking in we can begin to erode the wall built between humans an other beings. In Selwoc's springy eyes (you'll just have to meet him) there is no difference between the Park Ranger he meets and the poison ivy or the talking trash can (yes we do anthropomorphize -- this is a fantasy world after all!). In his total innocence he allows all things total dignity -- which in my view of reality (potentially distorted again) is what we are all asking for.

Selwoc is a pioneer named for Henry Cowles (spell it backwards), a man who did pioneer studies in the field of Ecology in what is now the National Lakeshore. Like Cowles, Selwoc is exploring interrelationships between the various things that share this place, both the residents (plants, animals, etc.) and the visitors (humans). Selwoc takes his earthly learnings back to Dunas in hopes of creating a better universe. It is our hope that little people find their own innocence validated by that of Selwoc, and share with him the need to allow other things their dignity.

Another introduction: Meet Olivia Oak -- an old tree, pushing 170 years, mind you, who has seen it all, the good and the bad. Her life began along an old Indian trail and in her days she has seen the Pottawatomies live a fairly caring existence, the activity of the fur trade, the extermination of the beaver from the area, and the removal of the Indians. She has seen the settlers come into the area and the impacts of their choices. She has seen the filling in of the wetlands. Potentially most important of all, shortly before her death (of heart rot, of course) she has seen the establishment of her home as a National Park, and area where people are making choices about the use of the land that are based on what is good for that land. Now, at the close of her life, she sees informed choices made for those who cannot speak for themselves.

Olivia knows her days are numbered. Knowing that she can no longer hold the special secrets of her life, she trusts in the magic of the woods and shares her story with an innocent passerby, thus allowing the park visitors to enter the world of fantasy made real through the painting of a concise picture of the historical development of this area. Olivia, having spanned the inhabitation of this area by all of its human residents, can make history a very real experience and emphasize the inseparable tie humans have had with the land (much to their chagrin). Her years have shown her the choices people have made, and from that viewpoint she can speculate on future choices. We have found her perspective to rub off on park visitors.

The introductions could go on ... Birdie the birdwatcher (she's such a lovely shade of green and mildly eccentric, yet outrageously caring and sensitive); the world-famous trash dancers, a chorus line of singing and dancing trash; Lilac, the four year old social statement; Ranger Dangerette, who puts our role as park rangers in a unique perspective; Poison Ivy, who represents the plant world as well as the world of surprises (things that we consider bad could have many uses if we just explore their lives); etc., etc. Each character has his or her own special message to share.

I could continue forever. Basically what we do through our puppetry program is share ideas in an attempt to break down a variety of barriers, not only that between cultural and natural history interpretation, but potentially those between culture and nature in general. We also attempt to deal with the barriers between fantasy and reality, the past, present and future, humans and non-humans, destruction and informed choice, etc. (Oh my goodness, how esoteric -- yes, well -- breaking barriers is what we're all about). Our puppets have very strong feelings about this place and, because of their slight separation from reality, can communicate their ideas and feelings in a way people listen to, participate in, and remember. Oh, how fun!

VISITOR FROM THE PAST

A GUIDE TO DEVELOPING AN AFFORDABLE LIVING HISTORY PROGRAM

Gary R. Moore

Introduction

A tombstone in the tiny Liberty Church cemetery near Delaware, Ohio, reads: "John Ben Cellar, born 1788, died 1851."

Yet in 1975 John Ben was "reborn" and lives in the hearts and minds of visitors to Highbanks Metro Park through the "Visitor from the Past" program.

Through this interpretive living history program the history of an era and area are presented to an audience in a captivating and often unforgettable way. Like the figure of John Ben himself, history (which has too often been a dry, book-learning experience) comes alive in a figure people can relate to, believe in, and remember. Instead of facts and dates on a page the audience feels buckskin, smells black powder, and hears the report of a muzzle-loading rifle echoing through the forest.

Living history programs are not a cure-all for ailing interpretive programs. Well researched, written, planned, and presented living history programs can be one of the best ways of presenting local heritage or history to an audience.

Through demonstration we provide insight into the creation of an interesting, informative, living history program. As visitors gather about a campfire they are mentally sidetracked with a primitive fire-building contest. At a musket blast the "Visitor" enters the twentieth century and our campfire circle. The history of what is now Highbanks Metro Park north of Columbus, Ohio, is revealed via dialogue with our "Visitor" John Ben Cellar through his eyes in 1835. What has resulted is a low budget/high interest living history program.

History Made Popular

Why is it that people will travel hundreds of miles and spend their own time and money to take in the same historical information they may have found abhorrent or at least dull in high school text books? Often, much of the information they seek can be obtained at a local library. The answers may be many, varied, and perhaps partially unknown.

In Interpreting Our Heritage Freeman Tilden wrote, "An

enduring sense of the heritage from our fathers is vital to our future, and this knowedge is to be gained by keeping the past a living reality." The last six words of this quote point out what many living history programs are attempting to do: ". . . keeping the past a living reality."

What Disadvantages?

Time and expense are important considerations, unless you receive the extremely rare "free license" for both from your superiors. Well planned living history will require even more time and personnel than other well planned interpretive programs. Research, script writing, rehearsal and costume procurement take an unbelievable amount of time, especially if it is to be a first attempt with no previous experience. It is not unreasonable to suggest at least three month's preparation time for even the most modest one- or two-person presentation.

Expenses for living history presentations can far exceed expenses incurred for other types of interpretive programs. To adequately outfit our "Visitor from the Past," for example, over four hundred dollars could have been required, as indicated by the following list:

$130.00	Costume (rented)
195.00	Rifle
15.00	Powder horn (borrowed)
12.00	Possibles bag (borrowed)
22.00	Knife (borrowed)
15.00	Moccasins
35.00	Tomahawk (borrowed)
5.00	Belt (borrowed)

Where indicated certain items were borrowed.

Multiply this by the outlay of funds required to outfit members of a trapping expedition or perhaps a Civil War drill team and the total can be staggering.

Where to Begin

Personalizing a program to a particular area requires the research of available historical information from many sources.

Local historical societies should be contacted for assistance in researching the writing of historical information for particular areas. A well planned presentation at society meetings outlining program plans and objectives can often inspire members to form project committees to gather information for a particular topic or area. Do not overlook local historical society archives and libraries.

Speaking of libraries, do not overlook the histories which have been written for most counties. Many are divided into separate township histories which would be applicable to smaller park areas such as the Metropolitan Parks in Columbus, Ohio. Many of these contain incidents of colorful characters or historical happenings. (Those seeking authenticity may want to validate certain passages by checking other references.)

Once family names of early settlers and/or outstanding historical characters are determined, interviews with their descendants can shake loose family skeletons from their closets with interesting and rewarding results. Family letters, histories, and diaries can reveal personalized references to "the way it really was" during certain distant time periods. A partial "Cellar Family History" was instrumental in forming the character and experiences for John Ben Cellar, the main character of the "Visitor from the Past" program.

Again, attempts toward verification of information should be made as exaggeration and attempts to glorify the family name are not uncommon.

An often overlooked source of excellent material can be found in old tax records or filed fire insurance claims. What better or more complete record of chattels could be found than that list compiled by the pennywise county tax accessors. Household items common to the time period would be revealed through old fire insurance claims. Naturally, these records apply more to the well-to-do, turn-of-the-century homeowner than to the early nineteenth-century settler. With imagination and initiative applied to a particular research problem, additional sources of information can be discovered.

Above all, keep in mind the purpose of the program, the authenticity of the material, and the enjoyment of the audience. Days spent in research will yield little in benefits if only dry, irrelevant information that visitors cannot relate to is chosen to be presented.

<u>How Does "Visitor" Differ from Traditional Living History Programs?</u>

The "Visitor from the Past" differs from many existing living history programs in three basic ways. First, a minimum of supporting props and personnel are required. The advantages of this difference for the small budget interpretive department are obvious. both time and money are saved by simplification of the program, by using just two interpreters. Training, outfitting, and maintenance of additional personnel are avoided.

Second, the program itself is not a continuous presentation. It is scheduled, promoted, and offered at certain times according to the availability of the interpreters involved and public demand for the program.

Many full scale living history programs have involved the reconstruction of buildings, entire villages, or battle sites. In this the "Visitor" program varies greatly. The only "setting" for the program is a typical surrounding for a settler of the Highbanks area in 1835--the outdoors. Though much of the history of our nation involved the urban setting the contribution of the settler striving through the wilderness for a better life cannot be overestimated. In a 1971 survey visitor preferences conducted at Williamsburg, nearly 68 percent of the visitors listed "everyday life in Colonial times" as their highest interest.

The "Visitor" program capitalizes on this interest in early everyday life which was emphasized in the program script preparation.

Followup

After the presentation, host and "Visitor" return to the campfire and introduce their real identities and roles to the audience. Brief background for program is explained and assistance by other personnel acknowledged. References are suggested, including further sources of information for those interested in learning more about topics of the program; i.e., history, Indians' and settlers' lives. Many questions are answered, especially by the "Visitor," particularly about his costume and equipment.

Park visitors' comments and suggestions for improving the program are requested. Visitors are heartily thanked for attending the program and the times and dates of future programs are announced.

Program Improvements

Any interpreter, after presenting a program before the public, should recognize needed improvements and changes. This is especially true if the program is a living history demonstration in a "premiere run." Ideas for improvements come from many sources.

Certain feelings of conscience or mood from within should not be overlooked. That "gut feeling" that the dialogue falters or becomes less than exciting in certain sections should be addressed.

We must be our own sternest critic first and foremost. Often it is difficult for the adventuresome writer or would-be performer to believe that his/her tremendous efforts could fall short of perfection after dedicating so many arduous hours.

Since the "Visitor from the Past" program entails the use of two people, ample opportunity exists for continuous modifications through suggestions offered by each partner during rehearsal of the program. This is not to say that script changes can be made

at the discretion of the performers. Authenticity, a key word, must be maintained. The director should have the final authority (and use it wisely) on any suggested program modifications. The writer and/or researcher should stand ready to defend each entry, word, or phrase, and its reason for being. At the same time, an open mind must be maintained so that suggestions that result in ultimate improvements in the total impact of the program on the audience may be incorporated.

Make special efforts to invite fellow interpreters and especially well qualified instructional personnel in the field of environmental interpretation to attend and comment candidly on your presentation. Finally, once recognized, needed changes should be implemented. Imagine the satisfaction of a returning visitor upon finding his valid suggestion has been included in the presentation of the program.

Improvements? Of Course!

A totally unexpected flaw in the presentation can involve contemporary words which occasionally slip out and destroy the 1835 aura. Examples have included "pub," "program," and a few others. Great difficulty has been encountered in attempting to totally eliminate these bothersome words and phrases. Imagine our embarrassment following the first program when a youngster in the audience asked why the "Visitor" was wearing a wristwatch. Ah, youth!

Other needed improvements will probably surface with additional presentations and script modifications. Hopefully, constant improvements and evolution of the program will result in a more meaningful living history interpretation program for all concerned.

Conclusion

Living history presentations can be a popular, effective, powerful interpretive medium which has its place in some interpretive programs.

Above all have fun and enjoy yourself during the program. It's catching.

LIVING INTERPRETATION AT SUMMER CAMPS

William Chiat*

So often in today's society, education of past cultures and lifestyles is muddled by the misrepresentations of popular television programs and other media presentations. Examining the relationship our heritage has had with the land is important in understanding many of our current environmental uses and problems. Interpretation of our cultural history, in many cases, is left to informal educational institutions such as museums, centers, parks and camps. Perhaps one of our prime opportunities for this interpretation can be found at summer youth camps. At Many Point Scout Reservation, we developed a living history program for summer campers. Hopefully what we accomplished there can serve as a model for other summer camps.

Many Point Boy Scout Camp annually serves over 2000 11 to 18 year old Scouts from the Minneapolis, MN area. The challenge we faced was how to take Scouts in a recreational setting, and give them the opportunity to experience the lifestyles of earlier inhabitants of the region in a meaningful way. This paper will explore the development and implementing of the High Adventure program at Many Point.

BACKGROUND

Many Point is typical among summer camps - adequate facilities and resources, and a good general interest program. The camp maintains a seasonal staff of 85 members, and has operated for over 35 years. Many Point also shares a common problem with most camps - declining enrollment and fewer returning, older campers. From an administrative point of view this was a major economic problem; from a program view, however, it was a challenge. We decided that our best approach for increasing and retaining enrollment was through the addition of a catchy new program.

The camp was fortunate in already providing an in-depth environmental education program. Goals for this program centered around Barry Commoner's Laws of Ecology and emphasized the concept of a web of life. Boys were leaving Many Point with an understanding of how the natural world functions and where we fit into the web. We had done little, however, to help them learn how man has utilized the resources in years past, and the effects that use has had on the environment today. The region around the camp was laden with a long, rich history. Integrating our cultural history into the camp program seemed to be an exciting direction to head with our new program.

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PROGRAM DEVELOPMENT

As with any new idea, we first examined the constraints and resources for the program. Of primary concern were: design of the program; equipment and staffing costs; and integrating it into the existing program. From a resource perspective, we had an adequate area to hold the program; talent to design and research it; local resource people and materials; and a small collection of relics. With these identified, we examined several similar programs and began the initial development of our own. The first task was to establish a goal and objectives for the program.

PROGRAM PHILOSOPHY

We began with the notion that awareness and understanding of the environment encompasses both the natural as well as human environment. For many individuals of Scouting age, the media has provided their only link to past cultures and their skills. As our population continues its shift from a rural setting to an urban environment, a great deal of understanding and appreciation for the land and our heritage is lost. It is no wonder that urban teenagers often become frightened and hostile when alone in the forest - or cultural misunderstandings occur between Native Americans and whites -- these peoples have no opportunity for first-hand learning and doing experiences.

Interpreting the environment and heritage provides this "first-hand learning and doing" experience. The primary objective of our interpretation programs is to assist the Scout in developing a keener awareness, appreciation and understanding of the region he is visiting. We wanted to take these urban teens and immerse them in a full-day living history situation -- to try and duplicate the kinds of lifestyles earlier cultures in the region had. We developed our goal as follows:

> "Through a living hands-on approach, Scouts will become aware and understand past cultures of the region: their lifestyles; skills; knowledge, use of an impact on natural resources; and their effect on our twentieth century lifestyle."

Definitive (measurable) objectives of the High Adventure program to achieve this goal centered around five objective categories: awareness and sensitivity of the total environment; knowledge through experience to gain a basic understanding of the total environment and humanity's critical role in it; attitudes towards social values and strong feelings of concern for the environment in both a natural and heritage context, and the motivation for actively participating in its protection and improvement; skills for solving environmental problems, and skills once a part of our culture that are now being lost; and participation to develop a sense of responsibility and urgency regarding environmental and cultural problems to ensure appropriate action to solve them.

THE PROGRAM

Around these goals and objectives, the program took shape, the focus of the High Adventure programs are the six outpost camps. Each camp featured a particular lifestyle and a self contained program. We composed our outpost offerings with not only the history of the region in mind, but also with the thought that the outpost activities must be appealing and exciting for the campers. As with all living interpretation programs we needed to examine the fine line of where we had to overlook influences on our equipment and program from the twentieth century. Because of economic constraints we found it impossible to completely eliminate all signs of modern man, but we felt we hit a happy medium where an occasional piece of equipment, food or jargon could be overlooked and still achieve our program's goal. The outpost program began daily at 1:30 p.m. and continued through 10:00 a.m. the next day. Full time attendance was mandatory. This length of time allowed us perhaps the most unique opportunity of any living interpretation program. Scouts were completely engrossed in the lifestyle portrayed -- not only in terms of arts and crafts, but also in the social life, meals, sleeping arrangements and so forth. This proved to be one of the most beneficial components of the program.

Our six outposts centered around the following themes:
- Ga-kitchimaminewamiwang Indian Village - an opportunity to live and learn the culture, religion, games, skills and foods of the Ojibwa (Chippewa) people.
- Diamond Willow Homested - features the crafts, skills, cooking and survival techniques used by Minnesota Pioneers.
- Logging Camp No. Seven - opportunity to live at a turn-of-the century logging operation, learning skills of log cabin construction, tools of the trade and social life.
- R. Gaylord Fishing Company - chance to experience a small commercial fishing operation from the late 1800's. Making lures and nets, smoking fish and locating and catching them are skills that are taught.
- Boonesboro Population 17 - experience an early fur trading outpost. Participants learn skills of trading, trapping, shooting and the lifestyle of early explorers.
- Tail of Otter Scoutcraft Base - learn the skill of pioneering and many of the other original Scouting skills. Program centers on early 1900's scout program.

Promoting the program was an integral part of its success. Logos, clever names, patches, take-home crafts or rewards, and handouts were all designed to be catchy and capture the imagination of Scouts and adult leaders alike. Interactions between outposts were planned, and the entire program was designed to center around the year 1879 - a year which marked the first white settlement in the area. Fur and craft trading, campfires, story telling, expeditions and meal times were some of the activities shared between outposts during the summer. Participants developed an understanding and awareness of the culture's lifestyle and how

members of the different lifestyles interacted and utilized the available natural resources.

RESEARCH AND STAFFING

Much time was devoted to researching the local history of cultures being interpreted. We found the following sources to be our best resources for information: County Historical Society; Indian Reservation Mission; State Historical Society; logging company; older members of nearby communities; county and township records and maps; history and craft texts; county newspaper; and assistance from organizations such as the American Association for State and Local History. From this compendium of material we identified the key skills, crafts and information participants should derive from their experience. We then hired outpost directors for each camp and gave them the responsibility to further research their role and develop the actual program.

Associated with the research was the location and purchasing of necessary tools and materials. We initially felt this would be difficult and costly. Much to our surprise, however, most materials were readily available and reasonably priced -- if you took the time to search for them. Many of our resource people were able to help locate needed items. A useful reference book we discovered was Country Tools (Davis, Fred. 1975. Oliver Press, 1400 Ryan Creek Road, Willits, CA 95490. $3.95). It listed sources for many of the more difficult items we were looking for. In one or two instances, we were forced to alter our program because of the unavailability or prohibitive cost of materials. For the first year we were able to outfit all the outposts for under $2,000.

Foods and cooking methods used by various cultures were also researched. We developed characteristic menus which were easy for Scouts to prepare and utilized food stuffs readily available. Meals turned out to be another program highlight. Scouts were preparing and eating foods they had never tried before. From homemade ice cream and game hen on a spit to vichisoise and a real loggers breakfast - meal times were certainly an unforgetable part of the experience.

Outpost directors were responsible for deciding what role they would take as well as making their own costume. We spent a week training our staff in skills of living interpretation, dramatics, role playing and other aptitudes required of their position. We emphasized that their entire presentation must be congruous with the culture and time period their outpost was portraying.

INTEGRATING INTO THE EXISTING PROGRAM

One of the most difficult tasks in implementing the program was fitting it into a well established camp program. The greatest obstacle stemmed from a lack of understanding on the part of our

regular staff as to the goals and objectives of the High Adventure program. Once the program was fully described, and it was demonstrated how the interpretation program enhances our overall camp program, integration became much easier. We found that almost every camper participated in at least one outpost the first year. One day away from the regular camp program did not appear to interfere with existing programs. Further, participants reported that the outposts provided a pleasant break from regular camp routine. Repeating campers found the outposts challenging and a rewarding summer experience. By the end of the first summer, cultural interpretation was an integral component of the Many Point program.

SUMMARY

Random written evaluations took place through out the summer, and responses were extremely positive from Scouts, adults and staff alike. The camp administration felt the increased staff costs and initial outlay of capital monies for equipment were more than compensated by a unique and attractive addition to the camp's program. The diversity of the interpretation program continues to attract new Scouts to the camp as well as providing a worthy opportunity for experienced campers.

Of greater importance, however, is the impact we had on the young men who participated in the program. Informal education plays a crutial role in our society today. Such a role can be seen by the cultural and natural history interpretation programs at Many Point Scout Reservation. By taking urban Scouts and immersing them in a hands-on living history program, the staff feels they are moving a long way in reaching our goal of helping them understand and appreciate the cultures and lifestyles from their past as well as present.

NATIVE AMERICAN INTERPRETATION

David L. Jackson

One of the most potentially interesting topics for interpretation is your local Indian tribe (or tribes). The level of knowledge of most visitors will be quite low; hence, you will be able to do practically any type of program and not feel that you are going over a subject once too often. Our educational system in this country is biased against a fair consideration of Indians. Whatever its origins (guilt, feelings of cultural superiority, racism, media stereotypes), your public will know little that is accurate about Indians. During the Spring Quarter of 1980 the Native American Career Education in Natural Resources Program offered a course in Native American Interpretation with the Program Director, David Jackson, and Donald Neubacher, of the Resource Planning and Interpretation Department as instructors, with several guest interpreters.

A background knowledge of Indian history is quite important particularly if your local tribes are still in existance and organized, and if their remaining property rights are being actively sought by non-Indians (fish, wildlife, water, timber, range, minerals). One of the things that is little understood by most people is the unique and peculiar relationship of most (but not all) Indian tribes to the federal government. Most of this stems from the time when Indian tribes were sovereign nations, and this fact was legitimized by an early treaty relationship. This fact of treaties (plus executive orders and statutory relationships equivalent to treaties) ensure a situation of great complexity and confusion when Indians are discussed. An appreciation of this situation by interpreters is a good place to start because it will help reduce a tendency to over-generalize when dealing in public with Indian topics.

The main objective of our course was to develop sensitivity to the subject when working up Indian interpretive programs. We engaged a number of Interpreters from the field to come to Humboldt and give presentations which might be broken down in several categories:

--Indian resource persons
--Non-Indian arts and craftspersons
--Anthropologists
--Public agency cultural resource specialists.

After an intensive series of lectures on Indian History we introduced the guest lecturers and interpreters as examples for the students to help them in developing their programs. An Interpretive Program was required from each student (26) in this class. Each student presented a project to the entire class for information sharing and critiquing at the end of the quarter.

At the beginning, most of the students wanted to make baskets and to replicate other items of Native American material culture. This was rather idealistic, since most of the skills necessary to make this type of presentation are quite difficult to acquire, and maytake many years to perfect to the level which would be required by public presentation. After a weekend cultural demonstration by Craig and Jennifer Bates of Yosemite National Park on Sierra Miwok culture--the students shelled and ground acorns, made soaproot brushes, attempted twined and woven baskets, amde fire, and cooked food in the traditional manner---it became apparent that most were not going to be practicing traditional arts and crafts for the public. Nonetheless, there are many possibilities in this direction for the Interpreter willing to devote the time and energy to the demonstration of Native American arts and crafts.

As another demonstration of this possibility we engaged Bill Mulloy of Sonoma County to demonstrate Flintknapping. Flintknapping is also called Lithic Replication, and basically involves the production of stone and obsidian tools by pressure and percussion flaking to make points, blades, axes, adzes, and other implements. Two of the students developed flintknapping projects with varying degrees of success. It took both of these students many hours to complete their projects; complete with reports of how one careless move ruined hours of flaking. Of course, flintknapping is not something that is still generally practiced by Native Americans today and, as such, is primarily of archaeological interest. The use of archaeological materials is very much subject to interpretation, is largely speculation, with some carbon dating and oxidation dating techniques to give a general idea of when a particular site was occupied.

In all instances we have stressed local consultation and input with local Indian groups and individuals when developing your programs. This will avoid problems later (to a certain degree) and will most likely help to improve your program and turn up more materials and resource persons to use in developing further programs.

It has been the experience of the authors that the use of Native American resource people in class is something that has to be carefully planned and structured. The Native American Career Education in Natural Resources Program at Humboldt has long used Native American poeple in its classes with varying degrees of success. In order to minimize problems, we find it useful to spend time with the resource person so he/she feels comfortable in the class or the field trip situation. A thorough discussion of the objectives of the class and the order of presentation will help minimize your loss of dollars on a poor presentation. We have found that this approach is to be suggested whenever highly trained technical people are used in your interpretive projects.

Elsie Allen, at 80 years of age--the foremost remaining Pomo basketmaker--came to class to demonstrate her skills and to tell us a few "Indian" stories about life in Indian boarding schools and what the local Pomo Indian community thought about her basketmaking demonstrations. Her remarks were very positive; she stated that while many people thought she shouldn't be teaching non-Pomos to make pomo baskets, she felt that since no Pomo people were learning the craft, it was better that the skill be passed on to interested people, and the art of Pomo basketmaking be demonstrated publicly so that people everywhere might have the opportunity to see and appreciate Pomo basketry. It should be added that while these statements are very good to have for people who contemplate doing some Indian interpretation, there are many Indians who feel just as strongly that non-Indians should not be directly involved, and that the local Indian arts and crafts should not be demonstrated outside the Indian community. Elsie discussed her practical approach to conservation of her resources by telling the class what she looked for when digging sedge roots, and why it is important to develop some kind of collection cycle so that any given sedge collection site has a chance to regenerate and remain productive.

Arlene Anderson (a non-Indian) from Sonoma County also came to demonstrate Pomo basketmaking in its most technical detail. Mrs. Anderson studied with Mabel McKay, who is also a Pomo medicine-woman, in addition to being a basketmaker. Mrs. McKay's instruction contained much more of the spiritual aspects of sedge collection, and made her classes much more aware of collecting properly when conditions were more correct from a traditional point of view.

Ricky Hoff, a graduate student, Department of Anthropology, Washington State University, Pullman, WA, who worked on the Hoko River wet site on the Makah Indian Reservation in extreme Northwestern Washington on the Olympic Peninsula, demonstrated aborginal Makah fishing technology. The Hoko River is the ancient site of a mud slide which buried a Makah village and preserved all of the artifacts, which usually decompose upon exposure to air, and is thus one of the most significant archaeological sites to be found in recent years. Mr. Hoff is completing his master's thesis on Makah fish hooks. His study and presentation was based upon the following progression:

--archaeological excavation using wet site techniques
--research of the ethnographic literature
--replication of the implements of Makah fishing technology
--consultation with Makah elders on the uses of the aboriginal technology
--putting into practice what he had learned by actually fishing with his replicated artifacts

Mr. Hoff was unsuccessful at first in getting his implements to work, even with consultation with the elders, and took his hooks to the Seattle Aquarium to see why the fish were not taking the hooks.

It was found that a slight adjustment was necessary in the angle of the barb before fish could take the hook. Once this adjustment was made, the fish could take the hook, and he then made some successful fishing trips to the traditional fishing grounds. It might also be added that the discoveries strengthened the support of Indian treaty fishing rights in the Pacific Northwest.

The success or failure of this class was demonstrated in the individual class presentations. We had three ethnobotany presentations of varying quality. Perhaps, the best demonstrations were those students who had skills sufficient to accomplish quite technically brilliant projects. One person made a pump drill (for drilling dentalia and shells), and another made a Chippewa Feather Crest that was quite unusual in its technical accomplishment. Most of the interpreters gave presentations that were sensitive, although three or four gave presentations which were disappointing at best, and would have been downright offensive, had they been viewed by the Native Americans concerned. The class will undergo some restructuring to allow for a better introduction to Indian History, and to have more time for preparation, introduction, and discussion of the guest interpreters; a better structure for allowing the class presentation of individual projects will also be incorporated. With this addition to the Interpretation Program at Humboldt, we are in a position to produce a better interpreter generally and, hopefully, one that will improve the overall quality of Native American Interpretation.

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WINDBREAKS V.S. WINDMILLS
A LOOK AT ALTERNATIVE FUTURES FOR INTERPRETATION

In the "older days," in a faraway land, the leader of a revolutionary movement published a book of his thoughts for his people to meditate on and live by. One of the proverbs in this little book was, "a man who senses the winds of change should build not a windbreak, but a windmill." Regardless of the source of this folk wisdom, the proverb is a fitting message for interpreters to meditate on at this point in our history. There are changes in the wind and all the data in hand points toward even more changes ahead. When something we are dedicated to is threatened by change, the natural tendency is to hunker down and defend the status quo to build a "windbreak." In this approach, our energies are spent in reacting to events beyond our control. By adopting instead a proactive response, building a "windmill" we can use the winds of change to create additional energy to fuel interpretation.

We all know, at least to our own satisfaction, that interpretation has never been fully funded, utilized, or supported as a major management tool. At no time has this been more apparent than during a period of severe fiscal constraint like we are currently experiencing. The above statement, while it may be a fact, is not a good justification for getting the support we feel interpretation deserves. The reason is simple. We have failed to convince "management" that we can be an effective force, and "management" makes the decisions on priorities and dollars and people. Keeping interpretation pure, maintaining the sense of wonder about our natural world, our historic and cultural heritage is a goal worthy of our energies. But using the resources we do have to show management that interpretation can be a major and effective tool for resource protection and visitor use, management is the only logical path to obtaining the resources necessary to achieve our larger goal. Because we are interpreters, we can do this without sacrificing the sense of wonder and magic that is the hallmark of our profession.

It's time to climb down from our ivory towers, to study our areas, our visitors and our managers goals and objectives, and then to develop high quality and exciting interpretive programs, that will help achieve both managements needs and our own objectives.

This panel of experienced interpreters representing a spectrum of the different types of agencies that employ interpreters, will discuss the changes they see impacting their resources, and offer some alternative futures for how to both cope with these changes and strengthen the role of interpretation as a result of them.

Papers representing the views of each panelist, will be available following the session and at the AIN Nerve Center.

Panel members.

1. Vernon (Dave) Dame, Chief of Interpretation and Visitor Services, National Park Service.

   Will represent resource preservation oriented agencies dedicated to providing non-consumptive resource based experience.

2. Bill Sontag, Chief, Public Use Section National Wildlife Refugees, U.S. Fish and Wildlife Service

   Will represent resource conservation oriented agencies dedicated to providing a sustained yield of the resources they manage.

3. Bill Beckner, Chief Naturalist, Fairfax County Park Authority

   Will represent local park and recreation agencies dedicated to providing intensive recreational use and protection of locally significant resources.

4. Heather Huyck, Interpretive Specialist, Human History and Cultural Resources, National Park Service

   Will represent agencies dedicated to the preservation of our historical and cultural heritage.

'Interpragers' on Boston Harbor Islands State Park

S. Gale, A. Lukens, N. Obus*

Boston Harbor Islands State Park, run by the Department of Environmental Management of the Commonwealth of Massachusetts offers an interesting case study illustrating the advantages and disadvantages of creating positions which combine interpretive and managerial responsibilities. The park; which consists of 18 islands in Massachusetts Bay, ranging in size up to 50 acres, was created a decade ago to promote conservation and passive recreation on what at that time was a neglected resource.

The islands have a fascinating human history, which spans three centuries. First used for farming, they have since accommodated military facilities, resorts, private mansions, hospitals, and even dumps. Mostly of glacial origin (drumlins); the islands possess a unique ecology, in that they are one of the few spots where the eastern deciduous forest reaches the Atlantic Ocean. Last year over 150,000 visitors came to the water park by private and public boat to swim, camp, picnic, explore, and relax.

The park has a supervisor and a maintenance crew, but the day to day management as well as interpretive programming is performed by a group of seasonal employees hired with the assistance of the Environmental Internship Program of the Massachusetts Audubon Society. In the capacity as island interpreter/managers (how about, Interpragers) these individuals first participate in a comprehensive training program and then set up primitive camps on the most heavily used harbor islands.

Interpragers are usually recent college graduates, chosen for their experience in working with the public in recreational situations. On a daily basis they are expected to greet island visitors, inform them of island regulations, enforce these regulations (with backup police authority, if necessary), administer 1st aid, keep order in the campgrounds and day-use areas, and run interpretive programs; including demonstrations, guided walks, displays and campfires.

Five summers of experience and observation indicates that employing Interpragers promotes effective management. The rationales behind various regulations (eg. - no inland campfires) are carefully explained to park users and the accessibility of the manager to the public is enhanced. Information flow regarding the entire spectrum of relevant island topics is facilitated by having interpreters serve as managers.

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From an interpretive perspective using Interpragers means that management concerns are integrated to a great degree into the programs offered. Interpragers tend to possess a heightened perception of the interaction between users and the island resource and strive to alleviate the inevitable frictions which arise. Public interest in management oriented programs on fire succession, island planning and low impact use has been great.

The self image of the Interprager undergoes interesting changes as the summer proceeds. Initially there is a sense of frustration and doubt that the individual can fill both roles. With experience comes the realization that these responsibilities can be integrated. What emerges is the conception of a role which is greater than its parts. This is reflected in a strong dual commitment to island stewardship and promotion of visitor enjoyment.

As weeks pass, the likelihood of a psychological letdown becomes greater. Volunteer assistance, social events, evaluation meetings, and training workshops help alleviate this potential problem.

The Interprager concept seems to have the greatest potential for success where the resource is small and self contained. In these situations a large staff requiring specialization of task is not necessary. The Interprager is free to be "everything", dissolving discrete boundaries between management and interpretation. Both benefit, and the result is highly cost-effective. In the appropriate context efforts to create Inteprager roles seem well worth it and should be carefully considered.

THE USE OF INTERPRETATION AS A MANAGEMENT TOOL

BY
MICHAEL BRALEY
DR. JOHN HANNA

INTRODUCTION

"Interpretation... a management tool. Is it or isn't it?" The preceeding statement was the first sentence in a letter sent to more than two hundred resource managers. Perhaps the managers had never considered using interpretation as a management tool. Perhaps interpretation had sometimes operated as a management tool but without specific direction or planning on the part of the manager. Perhaps also, by specific deisgn, the manager had implemented an interpretive program with the objective of assisting him in solving a previously identified management problem.

PURPOSE

To discover ways interpretation has been used as a management tool, then, is the basic objective of this research. "Have you used interpretation as a management tool?" was the one question which was asked of the resource manager. However, the question was open-ended in that if the response was "YES", we asked for some explanation of the situation, the interpretive treatment used, and any reasons for its success and/or failures.

STUDY DESIGN AND EXECUTION

For the purposes of this research, the population was limited to the following three categories: federal natural resource related agencies, state park systems, and a small group of professional interpreters. Within the category of federal agencies, the following were slected: National Park Service (NPS), U.S. Forest Service (FS), Corps of Engineers (CE), Bureau of Land Management (BLM), and U.S. Fish and Wildlife Service (USFWS).

Examples of ways interpretation had been used as a management tool were collected solely by mailed questionnaire. For return of the questionnaire, an addressed-postage paid envelope was enclosed. Of the 203 questionnaires mailed 118 were returned for a overall return rate of 58 percent.

MAJOR FINDINGS

The content of all responses was analyzed: (1) to discover the different ways interpretation had been used as a management tool and (2) then to see if these different ways could be categorized according to any natural groupings. The content analysis of the responses was, by nature, subjective. Because all or parts of some responses spoke more in generalities while all or parts of some responses contained more specifics, two preliminary natural groupings of uses were compiled. One list contained specifically

identifiable uses and was updated with each additional use of interpretation as a management tool regardless of whether or not that use had been recorded previously. The second list contained the more general uses of interpretation as a management tool and was updated each time a new and seemingly discrete general use was encountered. These general uses were then refined and combined into three major categories each with its own components (Table 1). This classification of categories and components operates in the following manner: the three major categories of uses define the function of interpretation as a management tool while the various components define the method by which interpretation operates.

TABLE 1: THE USE OF INTERPRETATION AS A MANAGEMENT TOOL

I. To increase public understanding of resource management goals and objectives.

   A. by relating any law, policy, program, or procedure to the public
   B. by involving the public in the management of the resource
   C. by acting as a public relations liason between management and public in order to develop positive public attitudes
   D. by providing information about, and/or assisting in, resource management operations

II. To promote a pleasurable, safe visitation experience

   A. through visitor protection
   B. through regulation compliance

III. To provide for natural and cultural resource protection

   A. by decreasing visitor impacts
   B. by promoting conservation, awareness, and appreciation of resources
   C. by promoting energy conservation and pollution abatement

Almost two-thirds of those responding to the questionnaire reported that they had used interpretation as a management tool. Of the 153 specific uses reported (TABLE 2), slightly more than half fell in the category of natural and cultural resource protection (Category 1), one-third of the uses were to increase public understanding of management goals (Category II), and the remaining one-sixth to promote a pleasurable, safe visitation experience (Category III). Decreasing visitor impacts to the resource was the greatest single use, almost 36 percent of the total number of specific uses reported. This one component accounted for more uses than did all of the uses reported in either Category I or Category II. Although minor variances from this pattern are apparent, this same general relationship is evident in each of the three types of resource areas, and no

Table 2
Number and Ratio of Specific Uses Reported by Type of Resource Area

Category	Natural Resource Areas		Recreational Resource Areas		Historical Resource Areas		Total of all Resource Areas	
	No.	Ratio	No.	Ratio	No.	Ratio	No.	Ratio
I. A	16	19%	7	15%	2	8%	25%	16%
B.	2	2%	2	4%	1	4%	5	3%
C.	5	6%	4	9%	3	13%	12	8%
D.	4	5%	3	7%	0	0%	7	5%
Sub-total	27	32%	16	35%	6	25%	49	32%
II. A.	10	12%	5	11%	3	13%	18	12%
B.	3	4%	3	7%	1	4%	7	5%
Sub-total	13	16	8	17%	4	17%	25	16%
III. A.	29	35%	15	33%	11	46%	55	36%
B.	11	13%	5	11%	3	13%	19	12%
C.	3	4%	2	4%	0	0%	5	3%
Sub-total	43	52%	22	48%	14	58%	79	52%
Total	83	100%	46	100%	24	100%	153	100%

(Note: ratios subject to rounding error)

significant difference was found in the frequency of use of interpretation as a management tool between natural, recreational, and cultural resource areas.

OBSERVATIONS

Even though the questionnaires were addressed to the resource manager, about 36 percent of the replies were written by persons other than the manager. Another 39 percent were returned with no indication of who replied which leaves at least 25 percent of the replies coming directly from management. Why didn't the manager answer more often? It would be unfair to state unequivocally that these managers could not answer the question because they did not know the answer. However, in several responses, including a portion of the negative replies, one has to wonder if the manager really knew and understood the operation of his interpretive program. A similar doubt was echoed by Sharpe and Gensler (3:3).

Many responses seemed to indicate that interpretation was used to attempt solving some problem and that results were generally favorable. However, if managers had consciously thought of interpretation as a tool to be considered along with other management tools at their disposal, this did not always come across in their replies. The great majority of responses implied the use of interpretation was successful, but rarely was any quantitative evaluation performed (or perhaps even possible) to see the extent to which interpretation had been successful.

"Success or failure of these programs is more subjective than objective and difficult to measure." (1). Could it be that measurement is difficult because interpretation was not given due consideration in the planning process? Perhaps if interpretation were considered in the planning process, a method of evaluation could be built in so as to facilitate the evaluation of the effectiveness of a certain use of interpretation as a management tool. Regardless of the evaluation performed or attempted, interpretation's effectiveness will still primarily depend on the actions of people. "Success or failure often relates to management committment." (4).

CONCULSIONS

From the answers we received when asking the question; "Have you used interpretation as a management tool?" there is no doubt that it has and is being used successfully. Of the 118 questionnaires returned, 68 percent of the respondents said they had used interpretation as a management tool. Although its use appears to be fairly broad-based according to the responses received from resource managers of six seperate agencies, two qualifications should be stated:

1. the use of interpretation as a management tool is not as

Well defined nor as understood as it could be

2. the application of interpretation as a management tool is not as widespread as its success might warrant

In the final analysis, we can put it no more succinctly or eloquently than did the respondent who wrote the following in bold letters across his questionnaire:

"Interpretation is a management tool!" (2).

REFERENCES

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2. Glacier National Park response, National Park Service

3. Sharpe, G. W. and Gail L. Gensler, "Interpretation as a Management Tool", Journal of Interpretation, Vol 3, No. 2:3-9 November, 1978.

4. Uinta National Forest response, U. S. Forest Service.

HUNTING FOR OUR PAST

Dick Birger*

I am sure no one will dispute the long history of hunting as a human endeavor. As a cultural activity, it has been a part of the human condition since our ancestors first swung down out of the trees. As the Spanish philosopher Jose' Ortega Y Gasset said, "Do not forget that man was once a beast. His carnivore's fangs and canine teeth are unimpeachable evidence of this. Of course, he was also a vegetarian, like the Ovidae, as his molars attest. Man, in fact, combines the two extreme conditions of the mammal, and therefore he goes through life vacillating between being a sheep and being a tiger."

If man's development of culture can be thought of as a continuum from the beginning to the present and on into the future, where does the activity of hunting fall? It is obvious that for a great deal of man's time on this planet it was a necessity, a way of staying alive - a biologic basic. At some point on this continuum, as agriculture developed and gave way to new technology, man's biologic need to hunt, that is strictly as a means of sustaining life, should have disappeared. This is not the case. Hunting, like so much of man's activity has changed, evolved with the rest of his culture. What was once a life supporting necessity has changed to a recreational pursuit. It's interesting to note that as food production became more stable due to the development of agriculture, hunting became the exclusive domain of the wealthy, privileged classes.

This tradition of the nobility "owning" the wildlife and other natural resources has continued up through modern times in most of the world. It is interesting to note that even in so called modern time, when it was no longer a necessity to hunt, "poaching" on crown lands was a time honored tradition. One can speculate whether this was a political act, defiance of class tradition, or a harkening back to man's earlier need to be again a part of, rather than apart from, nature. In any event the penalty for the luckless few who were apprehended was severe - the King's game keepers would hang the dismembered heads of culprits on the fences surrounding the royal forests. I know what's going through the minds of those of you who are involved in law enforcement duties - let me quickly point out that this didn't deter poaching any more effectively than our present day system.

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In any event the upstart Americans developed a system that said in effect, "since we have no class of nobility that own the resources of this country every man will have the opportunity to hunt and fish".

That tradition - of hunting and fishing was instilled in all Americans until comparatively recent times. It is only in the past two decades that an anti-hunting sentiment has become a potent force, one which has begun to have a serious impact on natural resource management.

The preceding few lines - a compression of thousands of years of man's history as a hunter - serve as introduction to my main point. Regardless of an individual's feelings about hunting - pro or con - interpreters have an obligation to recognize and understand the tremendous role that hunting has played in shaping this country's perceptions of our natural resources.

So what? Isn't that rather obvious - that good interpreters should understand that hunting is a part of the American cultural tradition and must be dealt with honestly? Perhaps, perhaps not.

Having been a practitioner of the art/science (take your pick), of natural history interpretation for a number of years has led me to believe that our ranks are divided on the issue of hunting in a way not reflected in the general population of this country. Interpreters, I believe, have abandoned the middle ground in favor of one extreme or the other in the hunting/anti-hunting continuum. The situation is analogous to people's attitudes toward house cats - you either like them or you hate them, no one is neutral when it comes to cats.

The point I would like to bring forward today for discussion by those in the field of interpretation gathered at this conference is that whatever our personal feeling is in regard to the subject of hunting, we owe our public and ourselves an honest examination of the issue in light of its historic past, its cultural heritage and the impact on the present and future of natural resources in this country.

As professionals we have a responsibility to present the natural world in as realistic and truthful a manner as we can. This platitude has been said time and time again. What does it really mean in a situation as frought with emotion and personal values as the subject of hunting? How do we know the "truth" in a situation that calls our own perception of life and death, right and wrong, into question?

I have no answer for you - I have some ideas, values that work for me but I would not presume to impose my value system on

others, (at least not all of it). I only hope that others would examine their values and at the same time the influence they have on other people.

To quote Dr. Stephen Kellert in his study of American Attitudes and Behaviors Toward Wildlife and Natural Habitats - "If there is any possibility for resolving misconceptions on either side of the hunting issue, of transforming expanding interest in environmental affairs from conflict to a more meaningful framework of productive activity, then it behooves us to take both sides seriously and to regard their respective viewpoints as sincere and well-founded."

In that light, let's talk about hunting and our role.

EVALUATION BY THE USE OF INSTRUCTIONAL OBJECTIVES

Kristie L. Lewis

The theme for this conference is "Integrating Cultural and Natural Interpretation". The key word is integrating. Evaluating interpretation by the use of instructional objectives requires the ability to integrate 1)organizational goals, 2)interpreter personal goals and objectives, 3)visitor objectives, and 4)environmental parameters into a new and coherent hierarchy of objectives which interpreters can use as standards against which to measure their effectiveness.

Evaluating interpretation by the use of instructional objectives is a systems approach. The world consists of many interacting systems, few of which can be overlooked if we are to evaluate our environments correctly, act efficiently and make survival-oriented decisions. Just as in historical interpretation the interpreter cannot ignore the natural environment in explaining events of the past, similarly in evaluation of interpretation, the interpreter cannot afford to ignore inputs from self, the organization, the environment or visitors when developing interpretation objectives and when evaluating interpretive events. As in any system, integrating information from all inputs to determine type, quality and quantity of output seems to be the key to success.

The Importance of Training

Is evaluation of interpretation by the use of instructional objectives a viable technique? Two surveys of National Park Service Chief or most senior Interpreters (survey #1 from the Western Region, 1978, and survey #2 from the Western, Pacific Northwest and Southwest Regions, 1980) helped to answer this question.

Chief Interpreters in survey #1 responded that an average of 54% of the interpreters on their staffs know about instructional objectives, 27% write instructional objectives for their programs and 23% use achievement of instructional objectives to measure interpretation effectiveness. Of the Chief Interpreters in survey #2, 69% know about, 34% have tried, and 22% are currently using instructional objectives for evaluation of interpretation. Therefore evaluation of interpretation by the use of instructional objectives seems to be a viable approach; however more interpreters know about this evaluation technique than are using it to assess interpretation effectiveness.

The gap between knowledge and use may be accounted for in part by the fact that interpreters who do not adopt this newer

approach to evaluation perceive some aspects of the technique significantly less favorably than do adopters. A larger percentage of the non-adopters feel that it is too difficult to try out on a small scale.(Table 1:Chi Square) Since adopting and non-adopting Chief Interpreters do not differ significantly regarding other characteristics of the innovation - both feeling that instructional objectives are compatible with their philosophy of evaluation and contribute to the effectiveness of interpretation - I conclude that the disparity in perceptions of adopters and non-adopters arises from differences in training and exposure levels.

A greater percentage of Chief Interpreters from survey #2 who adopted this evaluation technique had received in-service training in education theory, had read a book on and had received actual instruction on how to prepare and use instructional objectives for evaluation of interpretation than had not; whereas a greater percentage of non-adopters had not received such training and instruction.(Tables 2,3, & 4:Chi Square)

Chief Interpreters from survey #1 who included the development of instructional objectives as part of their seasonal interpreter training programs had significantly greater percentages of their staffs that knew about, wrote and used instructional objectives to measure interpretation effectiveness than Chief Interpreters who did not include the development of instructional objectives in their training programs.(Table 5:T-test)

Though evaluation by the use of instructional objectives may require creativity and the ability to integrate diverse sources of information from many interacting systems, it is a skill that can be learned. Training interpreters in how to develop and write instructional objectives should help close the gap between knowledge and use, increasing the number of interpreters that actually use instructional objectives to evaluate interpretation effectiveness.

TABLE 1: INNOVATION CHARACTERISTICS

Row % / Col %	Easy To Try Out	Difficult To Try Out	Chi Sq=4.31 Sig=<.05
Nonadopters	(20) 50% 54%	(20) 50% 83%	100%
Adopters	(17) 81% 46%	(4) 19% 17%	100%
	100%	100%	N = 61

TABLE 2: RECEIVED TRAINING IN EDUCATION THEORY

Row % / Col %	No	Yes	
Nonadopters	(33) 75% 79%	(11) 25% 50%	100%
Adopters	(9) 45% 21%	(11) 55% 50%	100%
	100%	100%	N = 64

Chi Sq = 4.24
Sig =<.05

TABLE 3: READ A BOOK ON I.O.

Row % / Col %	No	Yes
Nonadopters	(40) 85% 83%	(7) 15% 33%
Adopters	(8) 36% 17%	(14) 64% 67%

Chi Sq = 14.59 Sig =<.01

TABLE 4: RECEIVED INSTRUCTION

Row % / Col %	No	Yes
N.A.	(39) 83% 80%	(8) 17% 40%
A.	(10) 45% 20%	(12) 55% 60%

N=69 Chi Sq = 8.51 Sig =<.01

TABLE 5: DIFFERENCE BETWEEN MEANS OF STAFFS WITH INSTRUCTIONAL OBJECTIVES INCLUDED/NOT INCLUDED IN TRAINING PROGRAMS

Mean %	Know About I.O.	Write I.O.	Use I.O.
Instruc. Obj. in training programs	78%	49%	50%
Instruc. Obj. not in the training programs	40%	13%	8%
	T = 2.89 P =<.01 N = 32	T = 3.55 P =<.01 N = 32	T = 3.77 P =<.01 N = 29

Factors Limiting Adoption

Characteristics of an organization like size of staff or budget are often proposed as reasons for the non-adoption of new ideas. When asked to state the one most important factor limiting the adoption of new ideas and programs in their parks, many Chief Interpreters (survey #2) gave the traditional response, that lack of money (37% so indicated), time (8%), and staff (8%) - i.e. few slack resources - were the cause. However, in multiple regression analyses (surveys #1 and #2), actual size of staff and budget explained almost none of the variability in interpreter use of instructional objectives. Perceptions of the evaluation technique and individual characteristics, like specialized training, were more significant as variables explaining adoption of instructional objectives.

There are other reasons why organizations do not adopt new ways of doing things.(1) Before adopting an innovation, organizations usually experience one or more things: a changing environment, a higher degree of external accountability, and a "performance gap" or a difference between expectations and reality. In survey 2, 64% of the Chief Interpreters felt that their environments were changing some; 70% felt there were demands from outside the organization for accountability, for proof of effectiveness of programs; however only 45% perceived a "performance gap". A greater number of Chief Interpreters will have to see this gap in performance level before more widespread adoption of instructional objectives for evaluation of interpretation occurs.

Of those Chief Interpreters (survey #2) who had not yet received instruction in how to prepare instructional objectives for evaluation of interpretation, 90% indicated that they would attend a workshop on such a topic. Training in the use of instructional objectives would increase interpreter knowledge, which could lead to a change in perception of the evaluation technique. New perceptions combined with the current fluxuating environment and continuing demands for accountability could increase interpreter awareness of performance gaps and stimulate a search for alternatives, for new ideas to increase interpretation's effectiveness.

New ideas or innovations are not all equal. Innovation type, time in the social system, and consequences of the innovation can all influence the rate of adoption. Evaluation of interpretation by the use of instructional objectives has both a strong idea as well as an object component; thus it is not a simple innovation like the hula hoop, which required merely that one pull it on and wiggle! The idea of using instructional objectives for evaluation of interpretation

has existed in the social system for some time, and lack of training or knowledge in the correct use of objectives may have led to misuse or failures, creating a build-up of "negative messages" in the system. Also, some interpreters see negative consequences associated with adopting instructional objectives, like the time and cost of training interpreters in proper use. Such factors as the three above have probably slowed the adoption of this evaluation technique. However, the specter of energy shortages and rising prices have stimulated budget cuts, often in areas considered non-essential, such as interpretation. The burden rests with interpretation to prove its effectiveness, to assert its vital role in increasing public awareness of the inter-relationship of man and the environment, of natural and cultural resources. Evaluation by the use of instructional objectives, which establishes measurable criteria for success, is one step toward proving that effectiveness.

Conclusions and Recommendations

The evaluation technique employing instructional objectives for evaluation of interpretation is reasonably well known but not in wide use. Negative perceptions of the innovation and lack of awareness of a "performance gap" for interpretation may account for the limited adoption. Training interpreters in the use of instructional objectives and about the characteristics of change may be the key to increasing adoption of this evaluation technique and other innovations.

The ability to innovate is crucial to the survival of an organization, especially when the environment of that organization is changing rapidly. Being in itself a systems approach which recognizes the importance of inflows and outflows, evaluation of interpretation by the use of instructional objectives could enhance the ability of interpretation to adjust to change and would encourage the continual integration of new information into interpretation objectives. Administrators wishing to speed the adoption of this evaluation technique might (1) ensure its inclusion in local park and service-wide training seminars, (2) provide books on the use of instructional objectives to all Chief and District Interpreters (as a minimum), (3) encourage articles on this evaluation technique in interpretation publications, and (4) support those interpreters who are willing to innovate and to risk the trial and error period associated with instituting a new system.

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WHERE IS THE PLANNING IN INTERPRETIVE PLANNING?

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Many interpretive planners are convinced that American society benefits from interpretation, that interpretation will help preserve special environments from despoilment, and that interpretive planning is the means for making this goal into the concrete of visitor centers, audio-visual programs and exhibits. But we suspect that at times many of you sit at a desk and wonder what it is an interpretive planner is supposed to do and what good it does anyway.

The actual work assignment may be clear: Do an interpretive plan for... However, where to begin? Typically this question is answered by refering to past interpretive plans. With a model to mimic, all the past approaches, solutions and mistakes can be duplicated. The interpretive planner's work eventually reaches the final, futile stage of sitting on a shelf unread and unheeded. But how can we expect anything else so long as interpretive planners show little evidence of knowing what planning is or what it should accomplish? The volume of literature on planning theory and practice is overwhelming yet largely ignored by interpretive planners. Is there no room to squeeze in just one planning course between field ecology and ornithology?

The purpose of this paper is not to summarize the theory of planning literature, nor is it to offer some neat new planning process. The purpose of this paper <u>is</u> to look at some general, commonly accepted ideas on what planning should be and then see how interpretive planning stacks up. Our approach is a critical one, aimed at those interpretive planners who are critical of their own work. Offered here are some thoughts you might use to analyze your present situation and identify what is needed to put the "planning" into interpretive planning.

As a preliminary overview, we will be looking at planning as:

(1) The Process of Defining a Problem

(2) Information Processing

(3) A Learning Process

(4) A Democratic Process

As much as possible we will use real life examples to illustrate our points though uncomfortably specific details must necessarily remain vague.

1. The Process of Defining a Problem

> "It's obvious the problem is too many people and too many cars in too small an area. What we've got here is a carrying capacity problem."

How many times have you heard or said it? Are there obvious problems? Can a problem be simplified to a single term like "carrying capacity"? And whose problem are we talking about? These are the sorts of questions a planner asks before jumping to a solution. The planner must find out the nature and origin of the problem he/she is assigned.

A problem has been identified when an organization sees a difference between "what is" and "what should be". Using other words, a problem is a measurable discrepancy between a current situation and a desired situation. For example, you see an eroded trail where you would like to see a grassy meadow. If one accepts this definition then it follows that there are no objective or obvious problems because defining a situation as a problem is essentially a personal evaluation of that situation. And this evaluation may or may not be shared with other people. What a planner sees as a problem may not be what management or the visitor sees.

Thus the first step a planner takes is one of attempting to clarify what the client sees, what the client wants, and therefore what the problem is. Most interpretive plans miss the mark from the beginning because this crucial step is not taken.

In interpretive planning one of two errors is common: a) The area manager unilaterally decides what the problem is. Little time has been spent finding out if the staff or visitors share this perception. In our experience interpretive planners often appear too eager to accept the manager's definition of a problem. b) A second commonly encountered situation is for interpretive planners to accept ungrounded assignments. Oftentimes administrators appear to have no specific problem they want to address. The difficult problem definition stage is lost in a haze of talk about "what we could do here". This pet project, pet media approach denigrates the role of the planner as well as fostering potentially irrelvant plans and programs.

Planning as a process of problem definition means working out a shared view of "what should be"; that is, setting a goal to guide subsequent efforts. The "shared view" means more than an interpretive planner's judgement call; it means talking with management, staff and, most important, visitors, to find the common ground of what the ideal should be. In this way direction and meaning is given to the planning process.

Once the broader goal is established the planner moves on to set specific objectives. Objectives outline what variables will be manipulated to achieve the goal and resolve the problematic discrepancy between "what is" and "what should be". Again, the failure to carefully define the goals and objectives afflicts most interpretive planning efforts. Statements about enhancing, enriching, and appreciating offer little guidance for formulating an optimal program. Again, a major reason why interpretive planners fail to formulate effective programs is that the problems themselves, their goals and objectives, are undefined.

2. Planning as Information Processing

Interpretors love to identify and catalogue. Interpretive planners love to do resource inventories. Somehow this inventorying is supposed to objectively identify the resource's qualities and unique characteristics. The information generated is somehow supposed to guide interpretive planners' selecting sites, media, messages, etc. However, we should not expect that information, of itself, produces insight.

Creativity in planning requires that one be open to information outside of institutional and personal boundaries. Planners should be aware that the information available is itself biased by what its collector felt was important or worth noting. One should be aware and skeptical of the filters through which information has been passed. We do this when we listen to a politician or read a newspaper, but too often unquestioningly accept resource inventories and other planning inputs as "hard" data.

In interpretive planning there is a tendency to assume that some body of inventory research and fact will show the way. However, a resource inventory cannot be an objective planning input because of the connotative meaning of "resource". By definition natural and cultural resources have no value other than that assigned by society. How then can a resource inventory be separate from an analysis of the cultural evaluation of that resource? Would the entomologist's inventory be identical to the economist's? Research reported in the natural resources journals has shown major discrepancies between the biologically oriented manager's and the various publics' evaluation of resources. We must not let the myth of objective reality cloud our thinking.

Unfortunately interpretive planners fear, or at least dismiss as uninformed, views of resources that contradict their own. Planning agencies tend to seek and accept only those messages that maintain their image of what the world is and what it should be. Examples of this frame of mind abound.

Cultural resource inventories are usually done by "experts". An archaelogist might evaluate some site as a "one-of-a-kind". Rarely considered is the visitor's view that this site may look like many others. Instead of recognizing that its "uniqueness" may be based on an obscure technical difference, the expert or scientists' evaluation is irresponsibly used as a rationale for interpretive developments. The result has been major visitor centers at backwater reservoirs and refuges---whether the public wanted them or not. At worst, inventories are done to justify preconceived notions or already made decisions.

This is not to say that planners should never make assumptions. We all must work in a world of uncertainty and limited information. However the planner does not substitute dogma for information. The assumptions made in the planning process (and inherent in its data inputs) should, however, be recognized as such. The means for testing these underlying assumptions should be built into the planning process, which leads us to our third topic.

3. Planning as a Learning Process

The program, or recommended course of action, a planner develops will of necessity be based on limited and biased information, as there is no other kind. To avoid the paralysis of indecision, assumptions will be made and risks taken. Beyond the limits of the planner's imperfect knowledge lurk unforseen variables that might cripple the program. However, a planner will build in mechanisms for adjusting the program to changing social and environmental conditions. This is accomplished by building a feedback mechanism into the planning process. This feedback loop can be seen as a learning mechanism. It is a way of inserting new information into the planning (and implementing) process.

In interpretive planning this feedback might consist of an on-going contact with, and public evaluation of, interpretive plans and resultant programs. Public input provides a diversity of information the planner could never compile. Analyzing such input, interpretive planners would then know which decisions worked out and which failed. Over time a body of tested ideas would begin to emerge; this set of shared past experiences would then constitute the discipline of interpretive planning.

Interpretive planners have been reluctant to set up mechanisms whereby the public can assume the role of evaluators. Of course a major reason for this is the possibility of revealing numerous boondoggles and failures. However this same fear of "what we might find" has stifled the growth and creative energies of the interpretive planning field. Because interpretive planners have not thought in terms of program evaluation, they have not bothered to formulate specific goals and objectives. Because of this, programs are ill-conceived and yet there is no suggestion of how to improve them. Finally interpretive planners confront the futile dilemma of never knowing whether their program was a success or a washout. With this sort of record it is understandable why many administrators consider interpretation expendable, useless, or irrelevant to resource management. Gone are the days when interpretation's success could be judged by "the twinkle in their eyes".

4. Planning as a Democratic Process

The future of interpretive planning will be decided by its practioners' attempts to define their professional mission and ethics. These decisions will be made in an era of increasing skepticism about "enlightened experts". The superiority of planners' knowledge and judgement will no longer be assumed.

In a democratic society planners will be reconsidering their status as public civil servants. Rather than assuming the rightness of their perceptions and solutions, planners are being told to open up, to let the public speak early on in (the problem definition stage of) the planning process. The planners' new mandate will not permit soapbox oratory, but will require facilitating the expression of and responding to public needs. Planning thus serves to accomplish social goals.

Unfortunately interpretive planners who put such a view into practice are few. One more commonly hears "how can I get my message out", or "how can we get people to believe this, appreciate that, or have this attitude". Such statements betray many interpretive planners' continued preoccupation with proselytizing their own worldview. If solicited at all, public input comes after program assumptions or the designs are made. Money exists for building, construction, or artwork but not for visitor surveys, interviews or pilot program tests. It is sadly ironic to see this situation and then think that interpretation is supposed to be concerned with communication. Where is the communication when there is no dialogue and no means for exchanging ideas between planner and public? Interpretive planning has yet to incorporate systems for responding to public needs and changing social conditions. Until interpretive planners begin listening and responding to the needs of the people who ultimately employ them, they will be viewed as the typical misguided head-in-the-clouds bureaucrats.

In a democratic political system planning is done with the aim of creating or protecting a diversity of human opportunities. For example, zoning laws restrict the type of building construction while protecting the individual's choice to live in a residential rather than a commercial district. Interpretive planning often fails to respect free choice in matters of recreation and public lands policy. Instead, interpretive planners assume the mission of attempting to limit the way people recreate and use natural resources. As one example, interpretive planners have for years used their position to lobby against and restrict off-road vehicles. Even more blatant are program themes that set up falsely dichotomous situations where the public is told, "we must choose between pollution and the Fish and Wildlife Service", "environmental destruction and the National Park Service", "mismanaged resources and the U.S. Forest Service". Valid attempts to educate the public about environmental costs, impacts and trade-offs are usually clouded with assumptions about what the solution should be. In the very end the public is not even permitted to consider whether the agency or interpretation should be part of the solution.

If interpretive planners are to be more than propogandists they must define and adopt an ethic which assumes that planning will be democratic and respective of democratic processes. The future integrity of interpretive planners will require a new set of commitments. Interpretive planners will no longer be able to simply view themselves as protectors of the natural environment. The interpretive planner's commitment is to the planning process. It is a commitment to a systematic, rational and open-minded process of constructing programs that will satisfy public demands. Redefining and accepting a new role may be difficult. However, without this self-evaluation and redefinition, interpretive planners will continue to be viewed as the expendable part of resource management.

MANAGEMENT PLANNING WITH INTEGRATION AND IMPLEMENTATION

James R. Nye*

I have made the assumption with regard to this audience that most are or will be managers in order to allow myself to focus on what I feel to be major concerns and objectives for interpretation and recreation planning. First, our objectives as a program are, for the most part, to support the agency, foundation or governing body which has direct authority over us. Secondly, we as interpreters or recreation planners too often try to impose our program on a management system or management program that is incompatible with, or not ready to use interpretive skills or simply does not understand how to use the interpretive skills as a management tool. Thirdly, integration of interpretive and planning skills with the management system and program can support management objectives and the day-to-day operations at the field station, park or nature center if it is instituted in an objective manner. Most importantly, as managers we must understand the needs of the management system and the skills and benefits of the interpreter or recreation planner if the program is to be effective.

As for my concerns, I must direct my comments to middle management. This level is the one which I feel can and should have the greatest influence over the success or failure of a public use program supporting management. It is this level which must bring the day-to-day operational tasks in line with management objectives and budget. It is this level which must foresee not just management objectives but the goals and value for existence of the profession which many of us here are dedicated to.

What has been management's efforts? What should management accomplish? Why has not more been accomplished? We as managers have seen many master plans of one type or the other completed over the years; and, as you are well aware of, sit on shelves and collect dust. Some are used; however, most are not. Generally this is a deficiency in the preparation of the master plan that did not require the resource information required and needed by interpreters, recreation planners and EE programs. We have failed as a managing body to integrate our management systems with operational programs and functions.

What is needed, in fact required, is a tool which can fill the void between the plan and the development phase and meet the needs of management and the field operations. This is a manage-

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ment plan.

Let's consider a project as proposed by an outdoor recreation planner, interpreter or naturalist on a field station for a moment. This person wishes to implement a new interpretive trail with all of the amenities. Let's assume the full development cost is $15,000. Let's also assume the master planning was completed in the normal way lacking public use information. Can you imagine the problems and coordination which must be overcome before the trail can become a reality. First, the interpreter/planner must fully justify the trail and its purpose. This is followed by:

1. The direct supervisor's approval.
2. Direct supervisor, if approves, must find funds or suggest it in the annual budget process.
3. Supervisor's supervisor must approve.
4. Second supervisor will coordinate with:

    a. Safety
    b. Engineering
    c. Program Manager
    d. Sign Coordinator
    e. Staff Specialist

5. If funding is required, the project must be added into budget process. This could take three years.

The point I want to make here is that management, more specifically middle management, should take the responsibility for providing guidance to the field station with coordination and integration of the management system and the skills required by the interpreter or outdoor recreation planner. A manager who understands the skills of the interpreter and management objectives of the agency can integrate those with the management system to establish a management planning process.

What we do not need is another master planning process but more meaningful input into the original master plans and a process which bridges the gap to and including implementation and operational phase. This type of process should include three major areas of consideration, the first being program definition. This phase should include an inventory and summary of management guideance, natural resources and public use data. Theme development, design concept and specific objectives for interpretation, recreation and EE should be clearly defined. Second is program development. In this phase each program should be fully and completely developed. Items such as concept development, location, target audience, management criteria, method of presentation and facilities requirements should be fully developed. At this point support requirements should be integrated as well as each area of

development or function. The text and art are also to be completed in this phase. The third is program implementation. This is where most programs fail and where the most coordination is required. This phase should be fully defined with respect to how each project or function in the second phase will be accomplished, whether it be by contract or completed in-house and whose responsibility each function is. Each phase should reflect management needs and requirements along with the operational needs of the field station and whose responsibility it is to carry out a specific function. A key point in the development of any plan of this type is that it not be done in a vacuum. Each person on the staff shares in the responsibility. The interpreter/planner should coordinate the effort.

The Management Planning process, if prepared with objectivity, will be a working tool for each level of responsibility involved with the development and implementation of the program. It will unify the program by supporting the field station and developing common goals compatible with management and operations. The Management plan should be dynamic in that flexibilities are allowed if approved, for review and update within a normal planning period, and the process itself should be subject to revision and update. It takes time and input from many individuals to establish a solid management planning process. This process should be designed with your individual management system in mind. To develop as a standard one process for local, state, federal and private agencies would defeat the purpose; for each management system is influenced in different ways which will have a direct impact on the field's program, for it is imperative that each management system provide guidance through its own specific process. What I'm saying here is that middle management should take the respensibility to provide this guidance by preparing a management planning process. By following a Management Plan, these benefits can be derived.

a. Continuity of the station's total plan including need, justification, facility development, interpretive messages and design concept which should include the proposed image and theme of the station, all of which support the management objectives.

b. The finished plan should provide the field station interpreter/planner with the following:

   1. A plan and understanding of required projects and management objectives
   2. A list of approved and prioritized projects reflecting the interpreter/planner input.
   3. Less wasted time with false starts and a more positive direction toward plan implementation

and its operation.

4. Operational requirements at each level.

The supervisor will derive from the Management Plan:

a. Understanding of the proposed program requirements.
b. Better supervision and support of his staff.
c. A more positive budget for those proposed projects.
d. Continuity in the interpretive, recreation and EE programs.

Middle management can accomplish the following with a good Management Plan in hand:

a. Reviewing and approving the Management Plan all work toward implementation--can be assured that projects have been reviewed and meet the objectives of the management system.

b. Allows more flexibility within the budget system.
c. Allows management to carry out a more effective program review.
d. If extra money becomes available, projects which have been identified in the development plan could be developed without going through a long drawn-out process.
e. Most importantly is the ability to put some teeth into a program.

It is not my purpose to critize those in middle management with interpretive/recreational program responsibilities. However, as managers we need to take a more active role in providing our field stations with guidance in preparing an integrated management planning process. The following slide show illustrates one example of a process used by the FWS in Region 3 for the past two years. This process has gained support from field interpreters, station managers, middle management and our Washington office. The concept and process was conceived by the FWS and refined by Hanna and Silvy and Associates of College Station, Texas.

The Use of Standardized Planning Forms For Interpretive Planning Documents: A Case Study.

John A. Veverka*

Introduction

This paper/presentation involves an introduction to the use of some newly developed forms which were designed to help make the interpretive planning process for parks, historic sites, zoos, museums, or any other interpretive site, easier to prepare and use. In particular, the interpretive planning process undertaken in preparing the interpretive concept plan for Beauvais Lake Provincial Park, Alberta, Canada, shall be reviewed, and the use of the planning forms illustrated. As the actual presentation will center around a slide presentation, it is the goal of this paper to only supplement information presented during the actual presentation. In addition, the instructions for the use of the planning forms shall not be discussed in detail. Individuals who wish to obtain more information on the use of the forms should consult a recent article in the Journal of Interpretation (7) which explains the use of the forms in detail.

The Need for Interpretive Planning Forms

Prior to beginning the interpretive plan for Beauvais Lake numerous methods for interpretive planning were reviewed. It was felt that the use of the Peart-Woods planning model (1,2), which had been used by the author in past interpretive plans, was the best planning method to follow. Yet, while this planning method allowed for very complete interpretive plans, it was often difficult to "find" information on any given site within a park after the plan was completed. Likewise, after reviewing numerous interpretive plans from other agencies, it was felt that many interpretive plans suffered from the same problems: 1) many plans often didn't contain enough information

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or details that, in the authors opinion, were needed for a complete/functional interpretive plan, and 2) information contained in the interpretive plans pertaining to specific sites within the parks was often "scattered" throughout the plan. In an attempt to make the recording of information about the interpretive sites located within the park more complete and accessible, several interpretive planning forms were developed (7). These forms were designed to assist interpretive planners with those portions of interpretive plans that delt with the inventory of interpretive resources and the planning or development of interpretive services for those resources.

The series of forms which are completed for a park or site would not constitute the entire plan, but would be incorporated as one section of the overall document. That is to say, the body of the plan would also contain sections addressing policies, goals and objectives, visitorship analysis, evaluation, and implementation and operations. These elements correspond to the WHY?, WHO?, SO WHAT?, and Implementation & Operations components of the modified Peart-Woods model (1,2). The planning forms, then, would elaborate on the WHAT?, and HOW? WHEN? and WHERE? components of the interpretive planning model. In figure 1, the rectangle superimposed on the Peart-Woods model represents the interpretive planning forms as a unit in the overall planning framework, though this unit is still integrally related to the other components of the model.

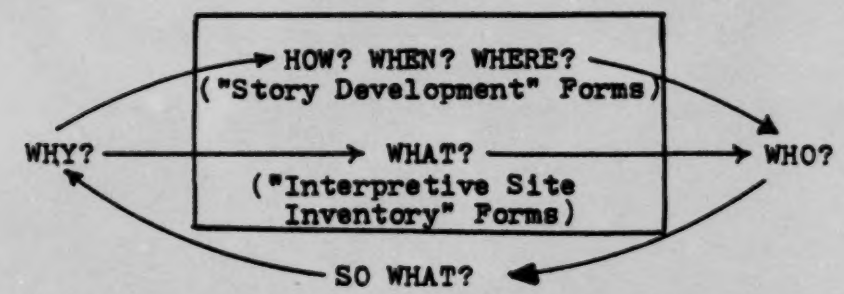

Figure 1.-- The Interpretive Planning Forms comprise a unit within the Peart and Woods (1976) planning framework (2,7).

Field Testing

The first testing ground for the use of the interpretive planning forms was in the preparation of the interpretive concept plan for Beauvais Lake Provincial Park (6). The actual development of the interpretive plan took approximately 6 months to complete. During the planning process, it was found that the use of the interpretive planning forms did indeed make the recording of information about each interpretive site within the park, and the recommended interpretive services planning for those sites, much easier to prepare and record. The information required on each form insured that topics/considerations which are often left out of interpretive plans, such as: site development objectives, interpretive significance, concepts to be interpreted as they relate to the main theme of the park, program/service objectives, potential interpretive modes, and a justification for any recommendations, were presented. Also, the use of a site inventory code (7) made the process of finding complete information needed for planning of services at interpretive sites extremely simple. The required use of photographs/maps to illustrate each site inventoried greatly helped readers of the plan visualize the need or use of interpretive services for any particular site.

The use of these forms was so successful in the development of the Beauvais Lake Interpretive Concept Plan, that the Interpretation and Education of Alberta Provincial Parks adopted the use of the planning forms as their standard tool for park interpretive planning documents. Other interpretive plans being prepared for Alberta Provincial Parks shortly after the Beauvais Lake Plan was completed, also used the planning forms, finding them to be quite useful and successful in preparing each document (3,4).

Conclusions

Based on the actual use of the interpretive planning forms in numerous interpretive plans, and on the success of those forms, it is felt that these forms may be a very useful tool for interpretive planners. Additionally, as planning directions for any particular park or site change over time, the set of forms for the park or site can easily be changed as needed. Thus, the interpretive plan becomes a dynamic planning document, continuously reflecting the changing budgets,

ideas, or planning constraints which may have been unforeseen at the outset of the plans preparation.

Finally, it should be noted that these interpretive planning forms are not "carved in stone" and are subject to review and modification so as to best serve the needs of the agency using them. The use of the planning forms should be viewed as only one of the many tools which can be used by interpretive planners to express their creative ideas and to help them transform those ideas into reality.

Should you have a opportunity to use any of the planning forms, the author would welcome your comments and any suggestions for their improvement.

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FROM HOOF TO HOOK --
A Case Study in 3-Dimensional Integration

Stephanie Gibert*

Administered by the U.S. Fish & Wildlife Service, the Spearfish Fisheries Complex is comprised of three separate stations in the northern Black Hills, each with distinctive settings, histories, resources, functions, and visitation. The interpretive planning challenges for this multiple-site complex are many and varied; however, this paper will focus on three objectives:

1. integrating resource themes with the site history, natural setting and existing visitation - or packaging each site as an independent whole;

2. meshing resource functions with visitor use on-site;

3. weaving connecting threads into the interpretive fabric at each site to produce an overall picture of the Complex.

The underlying premise of interpretive planning for the Fisheries Complex is not to create a tourist attraction, but to capitalize on the existing visitation to tell the resource management story. Site interpretation will expand the resource story to include a historic perspective as well as to enhance the inherent attractions of the natural settings.

INTRODUCTORY OVERVIEW

The Spearfish National Fish Hatchery forms the historic nucleus of the Fisheries Complex and the recreational fishing industry in the Black Hills. Although the habitat was good, no trout were native to the Hills. Public pressure in the late 1800s resulted in experimental trout planting by the Federal Government and later the building of the Spearfish National Fish Hatchery, completed in 1899.

For many years, the hatchery was the headquarters for Federal hatchery operations in much of the western United States. Horse drawn wagon expeditions were made annually from Spearfish to Yellowstone National Park to collect trout eggs. Later railroads transported many young fish to distant lakes and streams.

The hatchery has enjoyed a long history of trout production, innovative methodology and training programs. The depression and drought of the 1930s brought major changes to the hatchery facilities through the work of the W.P.A. A portion of Spearfish Creek

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was diverted to supplement spring flow into newly constructed raceways and ponds. By the late 1940s, however, upstream mining interests had reduced water quality at Spearfish to the point that trout eggs could no longer be hatched with consistency. At that time a search for a new hatchery location was undertaken.

The site selected was McNenny springs, a cluster of clear artesian springs and ponds located about 12 miles west of Spearfish. Water quality of the springs was excellent, with temperatures remaining at a constant 52°F year-round, ideal for trout propagation. The FWS entered into a cooperative agreement with the state of South Dakota and completed the hatchery facilities in 1951.

McNenny National Fish Hatchery serves as the primary operational base for trout propagation. About 3/4 million trout are hatched and reared annually at McNenny including larger fish transferred to the Spearfish hatchery for final growth before stocking.

'Ranch A' in Sand Creek Canyon, Wyoming was acquired by the FWS in 1963 for development as a Fish Genetics Laboratory. The site encompasses the headwaters of Sand Creek which boasts a long and colorful history of pristine waters and excellent fisheries. The superior fishing attracted one of the sites most controversial owners, Moses L. Annenberg, an eastern publisher with gambling and racing interest who built the log retreat in the early 1930s.

The original log lodge, barn and other ranch structures provide a highly scenic environment for a Training/Seminar and Environmental Education Center planned for the site. Modern buildings adjacent to the historic log structures will house the laboratory facilities for the Diet Development Center which will move its fish feed testing and formulation operations to 'Ranch A' in 1981. The excellent water resource also provides an ideal lab setting for a planned Fish Management Technical Center to conduct studies to improve fish management techniques, equipment and procedures for the field biologists.

SITE AND VISITATION CHARACTERISTICS

Spearfish National Fish Hatchery

The Spearfish National Fish Hatchery building is on the National Register of Historic Places and is currently undergoing a functional restoration. It will become the primary visitor center for the Fisheries Complex, housing a variety of historic fisheries displays. Obviously integration of cultural and resource themes is a 'natural' at this site, the focal point of interpretive development.

Since the historic hatchery is situated between a major city park and campground, the park-like setting and display pond of

large trout and waterfowl are the main attractions for large numbers of 'sightseers'. These casual visitors utilize the site as a filler activity with peak times occuring in the early evening and morning hours and of course on weekends. The ambling nature of the site will be retained in the interpretive development. A few low-keyed signs are planned throughout the picturesque grounds, but the main interpretive efforts will be housed in the historic hatchery building. The need for additional seasonal V.I.S. personnel is anticipated.

The resource functions at this site include administrative offices for the Fisheries Complex, staff residences, extensive youth projects and limited trout production. Although the site draws the highest visitation (~100,000 per year), visitor conflicts with resource functions are minimal. Some areas of conflict are:

a. Visitor parking - The Complex is negotiating with the city to enlarge a parking lot in the adjacent city park. A connecting foot bridge and walking trails will also be added.

b. Visitor restrooms - currently visitors must depend upon restrooms in the city park. Future plans call for on-site construction in keeping with the historic era.

c. Poor diet for display trout - The hatchery provides penny 'gum ball' machines to dispense a handful of fish pellets.

d. Law enforcement - The display pond is a temptation for late night fishing. So far the enforcement problem is minor compared with the pleasure provided by the display trout.

McNenny National Fish Hatchery

The McNenny National Fish Hatchery is a modern hatchery, the heart of the fish production function of the Spearfish Fisheries Complex. In addition to the typical hatchery and maintenance buildings, raceways, rearing ponds, and staff quarters, the facility also houses the youth programs offices, a nature trail and temporarily, the Diet Development Center. The hatchery is set in a basin of lush riparian vegetation which is in pleasant contrast to the sagebrush-grasslands of the surrounding country.

Most visitors are attracted to the site by the interstate exit signs and stop out of curiosity. Many are interested in learning something about hatchery operations, trout, and fishing. Consequently, these topics become the major interpretive themes for the site. (Interesting historic themes have not surfaced in the research to date.)

Interpretive development will depend heavily upon displays, pamphlets and signing. Unlike Spearfish, more extensive exterior signing and displays are planned at McNenny because of the difference in visitor interest and the more limited access to displays

in the active hatchery building. Plans for extending visitor access to the hatchery building beyond regular work hours and the attendent need for additional V.I.S. personnel is under consideration.

In addition to the limited hatchery access, other areas of conflict include:

a. Visitor parking - A new lot will be located away from the active hatchery area on a bluff overlooking the station. Since the lot will split the existing YCC constructed nature trail, it will have to be reworked to allow for traffic in both directions.

b. Visitor restrooms - Restrooms will be developed in the hatchery building in conjunction with major rehabilitation of the building.

c. Empty raceways - The length of the visit drops when the raceways (outside fish rearing tanks) are emptied in the peak season because of the normal stocking schedule and annual maintenance. The hatchery staff is considering the staggering of raceway maintenance and the construction or designation of a display pond.

'Ranch A' Training and Development Center

The 'Ranch A' station is one of clashes in both facilities and function. The research branch of the U.S. FWS purchased the property strictly for the pristine water resource and the land to develop research facilities. Development did preserve the large log buildings and formal grounds of 'Ranch A', however the modern brick faced facilities at the edge of the green contrast greatly with the opulence of a by-gone era of the estate.

Under the Spearfish Fisheries Complex, the station functions will continue in divergent roles with the Diet Development Center and Fish Management Technical Center utilizing the research facilities and the Training and EE Center occupying the log estate. Long range comprehensive planning for the site is difficult because the scope of the two new fish management and training programs has not yet been defined.

Because of past research functions and the remoteness of the site, it has attracted relatively small numbers of highly interested visitors, mainly through word of mouth. The principal attraction is of course the log estate and the mystique of its financier Moses Annenberg. Interpretive plans for 'Ranch A' again call for the maintenance of a similar visitation pattern to minimize conflicts with training and technical functions on-site. The complexity of the historic information and the magnificence of the log estate almost demand interpretation by small tours which will be strictly scheduled. A historic booklet will be written for 'Ranch A' to help dilute the intriguing but politically sensitive character of Moses Annenberg with a more complete if somewhat less colorful

site history.

The primary challenge of the station is interpretively blending the log estate with trout diet development (and later the fish management technical program). Again a historic treatment of the fish diet theme will be emphasized. This tactic accomplishes several objectives: focusing attention on the most interesting facet of the work -- why it was and is needed, accenting the role of the pristine waters and fisheries on-site, and providing more possibilities for connecting threads with the log estate.

A third interpretive opportunity is the unique natural setting which combines the special water resource with a plant 'preserve'. The preserve of rare and unusual plants is the result of grazing restrictions on the 600 acre tract of land. This provides excellent EE themes and materials for development of interpretive trails. Because of the low visitation, provision of visitor parking and restrooms is not as critical here as it is at the other two stations.

CONNECTING THREADS

The connecting threads that bind three diverse stations into a single composite picture comes in two primary weights: the information or themes selected and the form of presentation. Obviously, the form of presentation is the easier cord with which to work; for example:

a. standarization of signing throughout the stations for orientation, identification, regulation, and interpretation. Standards include: color, letter type, layout, materials, placement, etc.

b. uniformity in brochures, booklets and leaflets with the inclusion of 'umbrella' publications.

The more slender threads occur in the information selected for interpretive treatment. The McNenny and Spearfish sites are easily bound by a common resource theme in successive time frames, however, 'Ranch A' is of a different weave and not so easily attached to the others. A few of the strongest fibers indentified to date are:

a. importance of the water resource at each site.

b. change in fish culture methods, expecially the tremendous impact of trout diet development.

c. economics - the growth of the recreational fishing industry and the dramatic contrast between the opulence of 'Ranch A' and the W.P.A. work at the Spearfish hatchery during the depressed 1930s.

The title of the paper, "From Hoof to Hook" relates to scrap meat, often horse flesh, which was one of the primary ingredients in fish food before the development of dry diets. The title can also be stretched to subtly connect Moses Annenberg's business interests in horse racing with his fishing pleasures at 'Ranch A'.

Goals for AIN

Jerry H. Reyburn

At the last AIN Conference in Minnesota (February 1979) it became apparent that the goals for AIN needed to be defined, refined or alligned. There were concerns expressed about the directions the organization was taking and in updating the aims that the founders had for the profession.

Toward the end of the Conference, Douglas Knudson, Donna Kostka, Ron Hodgson and Jerry Reyburn met in the hotel sauna, where, it might be said, a heated discussion occurred. All the expertise to solve this problem was available within this group of four, if the effort could be organized. Reyburn was selected to coordinate the effort because he is at The Pennsylvania State University where President Jerry Elliott resides and teaches. Theoretically, Reyburn could maintain a liaison with Elliott. It was also decided that the Delphi technique for prediction and goal clarification was applicable to the problem. Reyburn had previously used the Delphi technique and the rest of the group were familiar with the capabilities of the procedure.

The Delphi technique was developed by Olaf Helmer and Nicholas Rescher about 1960 and was described in a Rand Corporation publication, R-353, titled "On the Epistemology of the Exact Sciences." In "Future Recreation Environments," Forest Service Publication FS-316, authors Elwood Shafer, George Moeller and Russell Getty describe the technique as the "process of combining expert opinions into a group concensus." It takes the best there is in the state of knowledge and either truncates extreme positions or explains these extreme positions so if they have validity an opportunity exists to shift the collective thought. The Delphi technique applies organization and democracy to a sort of group thinking. It accelerates the process that science has been using for years, exposing theory to research and debate before tentative acceptance into the body of knowledge. The Delphi technique uses modern communications to hustle things along. In this case the U.S. Postal Service was the main communications vehicle.

After a slow start, it was decided that the experts in interpretation were members of AIN. Although one AIN member is probably equally as good as another, when it came to expert opinion President Elliott wanted to find out if there was a difference between newer members, supposedly represented by affiliates, and the supposedly older full members. When the 10 percent random sample was drawn, the two groups were identified and the returns were kept separate for comparison.

In November of 1979, a letter was sent to those selected, asking that they write what the goals of AIN should be. Forty-one percent of the affiliates (7) and thirty-three percent of the members (20) in the sample responded. Each thought was on a single 3 x 5 card. Most wrote more than one.

The results were sorted and categorized by Reyburn in the second step of the Delphi Technique. The regional directors then were given the cards for sorting into categories; the number of cards in each category was recorded. Anonymity was assured respondents by re-typing the cards of those who boldly signed their names.

One interesting development in this process was the obvious difference in concerns between the affiliate and the full members apparent in Reyburn's original sort. Affiliate member's concerns where much more diverse, covering 12 categories compared to 8 for the members. More than twice as many affiliates indicated "Education of Interpretive Techniques" as a worthy goal of the organization. Full members regarded "General Communication" as the main purpose of AIN, more than triple the number of comments in any other category. Second came "Lobbying", and resolving the AIN-WIA problem, both were equal in number of comments.

The next phase of this Delphi process is to take the blended goal categories and to formulate them into goal statements. These are presented to the membership with the categories having received the most votes previously heading the list. During a workshop at the AIN Conference in October 1980 at Cape Cod, the membership is invited to discuss and debate those purposes of AIN. A process of democratic editing will occur before the list is presented to the AIN Board of Directors for formal action.

The process started in the Minnesota sauna continues. Donna Kostka, Douglas Knudson, Ron Hodgson and Jerry Reyburn will be available as a panel of facilitators. Those who wish to attend these discussions will participate in forming goals which are worthy and representative of the Association of Interpretive Naturalists.

Jerry H. Reyburn, Associate Professor, Cooperative Extension Service, the Pennsylvania State University, University Park, PA 16802

Training Interpreters For Off-Site Interpretation

Mary Lynne Bowman*

The role of the interpreter is no longer limited to on-site activities. Due to rising energy costs; a tightening economy and growing concern for the handicapped, elderly and others with limited mobility, interpretive outreach programs are becoming commonplace. This expanded role takes interpreters out of their traditional settings--parks, nature and visitor centers, museums, etc.--and places them in the settings of their audiences. Off-site interpretation poses additional challenges since in effect, it is the interpreter who is the visitor and accordingly the sites vary. Thus programs must be flexible enough to fit into many situations and diverse environments.

Another factor that the off-site interpreter must consider is that the off-site audience is usually homogeneous either by age or special interest. This necessitates interpretive programming that is sensitive to the specific needs of each audience.

The faculty responsible for the training of interpreters at The Ohio State University (Columbus) believes that experience in a variety of off-site interpretive activities is an important part of the interpretive training program. Opportunities in off-site interpretation are immense in Columbus, a Metropolitan area of over one million inhabitants. The diversity inherently contained within the city offers countless opportunities both in working with people of a variety of backgrounds and ages and testing manifold interpretive programs.

The Ohio State University began utilizing the urban community for a training ground as a result of feedback from alumni that indicated a lack of "people oriented" coursework in the curriculum. Specifically, it was pointed out that the University program was quite apt in the training of interpreters to interpret. However, it was less effective in preparing our students to adapt to meeting the needs of various types of clientele they might encounter in off-site programming or in more urban-oriented interpretive settings.

The basic interpretive methods courses provided peer group interpretive and teaching experiences but the challenge of working with different age groups from different socio-cultural backgrounds was lacking. Internships provided practical field experience but student participation was usually limited to conducting established programs. These offered little chance for student creativity and the testing of a variety of programmatic ideas and methodologies.

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Clearly, the students needed more experience working with people outside of the University and traditional interpretive settings; a greater exposure to a variety of program possibilities was needed. The urban community had the necessary ingredients--both people and diversity--to provide these types of experiences. Thus, Natural Resources Interpretation/Education Program Development in the Urban Setting, an undergraduate field course, was developed and implemented into the curriculum.

Course content includes:

1. An investigation of the urban dweller's perception of their environment.
2. Exploration and critique of the potential of the interpreter in the urban setting.
3. Review of techniques of enlisting community support for natural resource or environmentally oriented programs and projects.
4. Design and implementation of at least two programs or projects with members of the urban community.

Soliciting ideas for projects is not a problem. A major source is the city newspapers. Almost daily, there is an article, editorial or letter to the editor that suggests possibilities for student involvement. The county social service department has been another valuable resource for potential projects. The following are descriptions of student projects.

Development of a Mini-Park on a Vacant Lot

A local Head-Start Center expressed concern of the lack of a play area in the community for their preschool children. The nearest park to the center was located seven blocks away and all routes to it were through highly congested traffic areas. There were two vacant lots owned by the school that leased the Head Start Center in the immediate vicinity but they were overgrown with weeds and being used primarily as a dumping ground by the community. Students contacted the lot owners and gained permission to develop either or both into some type of recreational area. Along with staff and Head Start's parents, students then canvassed the neighborhood soliciting financial assistance and/or work pledges. They raised $900.00 including a gift from the Metropolitan Action Center and pledged several work volunteers. Mini-park plans were developed with parents, staff and neighboring residents and all set to work to clean-up the lot, build a rail fence, plant evergreens, build patios and benches, construct a sand box, dig a garden for pre-schoolers to plant and care for and develop a land lab for educational purposes. The money was used for playground equipment. Opening day at the Mini-park was a real source of pride and accomplishment for both students and residents.

Organization of Community Action Groups

Several projects have resulted in helping various communities throughout the city organize groups and programs to attack specific local environmental concerns. Included among them are:

Rat Control -	Conducted door-to-door education program on ways to eliminate rats from the area. Obtained rat poison and new garbage cans and lids from city civic group.
Lead Paint -	Formed coalition to require absentee landlords to rid housing of all lead paints.
Drainage -	Helped community organize and present "No. 1 problem priority" of poor drainage on city streets to City Council.
Housing Restoration -	Helped urban renewal project collect historical data to assist residents in authentically restoring their homes.
Litter Clean up -	Organized "Project Prides" in two city neighborhoods and worked with residents on clean-up days.
Community Gardening -	Organized two neighborhood cooperative garden plots.

Senior Citizens Centers and Convalescent Centers

These centers provide a gold mine of possibilities. Residents are eager for contact with youth and the outside world; thus, they make excellent audiences and testing grounds for programmatic ideas. Among the activities students have conducted with the elderly are: sing-a-longs, hoe-downs, walking tours of the city, fishing trips, roof top flower and vegetable gardening, herb gardening, nature crafts, slide talks, visiting and interpreting architecture of local churches and other interesting city buildings, collecting and preparing edible wild foods and Spring wildflower walks.

Working With Handicapped

Handicapped groups provide excellent opportunities for students to adapt programs to fit the needs of specific clientele. Students have planned and conducted sensory walks and programs for both blind and deaf groups. One program organized for students confined to wheel chairs emphasized dendrology using the campus

oval as a laboratory. Wheelie Nature Club was born out of that program and continues at The Ohio State University campus.

Public School Presentations

Through contact with our local Audubon Society, a variety of natural history presentations have been arranged with city school classes ranging from kindergarten to Senior High School age groups. Alumni report these experiences extremely valuable since they find a great portion of their work involves school groups.

Conclusion

Activities such as these provide interpretive students with opportunities to interrelate with people from various backgrounds and to test a variety of programmatic ideas. If interpreters are to meet the needs of increasingly diverse audiences in a greater spectrum of settings, it is essential to expand interpretive training beyond the familiar and traditional programs.

INTERAGENCY PLANNING FOR HERITAGE INTERPRETATION PROGRAMS: THEORY AND PRACTISE

R. P. HERON, Ph.D.

ABSTRACT

This paper assumes that interpretive agencies are human service organizations which have inter-organizational relationship problems not only unique to them but which are shared by other human service agencies. Shared problems are those of providing multiple services, of competing with organizations providing similar services, of presenting the values of pressure groups, and of the changeability of relationships with other agencies. Problems of specific concern are those of fragmentation, of the need for systems and thematic planning, and of limited funding.

A theoretical framework is presented from which to examine the complexity of the topic. Environments vary according to degree of stability, homogeneity, concentration of population, resource capacity, domain claims, and turbulence. In addition, interaction between agencies can occur with respect to its frequency or infrequency, the degree of formalization and finally the amount of conflict/cooperation. Next, four types of environments are described: placid-random, placid-clustered, disturbed-reactive and turbulent field. It is suggested that interpretive agencies are facing the last type. To define the environment four sectors are suggested for agency consideration - the customer, the supplier, the competitor and the regulator. Finally, non-cooperative and cooperative strategies are reviewed. The former includes ignoring or competitive actions: the latter suggests contracting, co-opting, coalescing and coordinating activities. Coordination is subdivided into standardization, planning and mutual adjustment behaviours. These strategies are exemplified by seven cases from the interpretive scene in Great Britain.

The paper concludes with a presentation of research findings which, with the theoretical discussion, are translated into guidelines for agency consideration.

NOTE: Because of the length of this paper, it was not able to be published here. You may obtain copies from Dr. Heron at:

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EFFECTIVE EXHIBITS:
WHAT TO PLAN--AND HOW TO PLAN

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MUSEUMS AND VISITOR CENTERS

Many of us have as our professional missions the planning and designing of exhibits for museums and visitor centers. Webster and others have no difficulty defining the term "museum" as meaning a building or part of a building in which are preserved and exhibited objects of permanent interest in one or more of the arts and sciences. The term "visitor center," on the other hand, cannot be so easily defined, for its function may vary from facility to facility.

As interpreters, we must address ourselves to the dissimilarities between museums and visitor centers, but we must also recognize that many similarities exist in terms of the principles of exhibit effectiveness.

Perhaps the greatest difference between museums and visitor centers lies in the locations of their basic resources. In museums--be it the Smithsonian Institution or the county historical museum in the Mt. St. Helens region--the basic resource, which is the objects (whether d'art or science) is located inside the building. Visitors come specifically to see the exhibits within that building. Many linger at least half a day, and in larger museums, out-of-state visitors may plan to stay several days.

In visitor centers--be it the Sugarlands Visitor Center in the Great Smokies or the Mt. St. Helens Visitor Center at the foot of a recently active volcano--the major resource is often located outside the building. Exhibits and objects in visitor centers serve to give visitors a better understanding of the resource, but it is usually in the form of an introduction to the "big exposure" or an "index" after they've seen it.

Basically, visitor centers are orientational exposures. This is not the case in museums. Also, the time-frame in visitor centers is shorter, rarely exceeding an hour or two, and usually much less.

WHAT EXHIBITS ARE--AND WHEN TO USE THEM

Objects

Good exhibitry employs objects. They add dimension and give us something real to which the visitor can relate. They are exhibited in both museums and visitor centers, because they have intrinsic or aesthetic value and should be preserved.

Layman visitors learn by viewing the objects on display and reading effective copy. More scholarly visitors can learn in greater depth by studying objects housed in the museum or visitor center study-collections.

A note about object preservation: In both museums and visitor centers, the education and/or learning experience should not impair the value of the objects.

Exhibits Versus Other Media

A wealth of objects is one of the primary factors in the selection of the exhibit medium rather than other interpretive media. There are others, and all of them--in certain instances--may be superior to the exhibit medium in performing an interpretive function. The secret is in knowing what exhibits can do, what they cannot do well, and what other media can do better.

Exhibits can set a mood. By using a wealth of objects, they can stop a moment in history, or create an environment. What they cannot do is to tell a highly sequential or complex story. For example, exhibits can, with strong objects, show in a battlefield site that "war is hell," what arms were employed, or the destruction that ensued; or they can portray the life style of the people involved. They cannot show the dynamics of the battle and its strategy nearly as well as audiovisual media can. Nor can exhibits effectively detail the events that led to the battle and the series of events that happened as its result. To combine objects and long blocks of copy in an attempt to tell this type of highly sequential story often results in a contrived and dull exhibit.

In the field of natural history, exhibits can show the wealth of flora and fauna in the spruce/fir-forest ecosystem of the Great Smokies; they can show the layers of rocks that make up the walls of the Grand Canyon; or they can create--with objects and graphics--the cataclysmic moment when Mt. St. Helens blew her top. What the exhibit medium cannot do is: to show the complex interrelationships of the spruce/fir-forest and the other

ecosystems of the park; to do a good job in showing how the Grand Canyon was formed; and to show the complex series of events that led to the volcano's eruption (for example, the plumbing involved). Audiovisual programs and devices, incorporated in some cases within the exhibit, can tell these stories much better.

The publications medium also should not be overlooked. Seriously interested visitors can absorb the sequential details much better later, at their leisure--or on site, with the resource in front of them.

A self-guiding nature trail is a far better way to interpret the spruce/fir ecological story than a visitor-center exhibit. Any exhibits designed to deal with the story should attempt to do little more than to whet the appetite, and entice visitors to experience this refreshing scene in greater depth on site.

Dynamic exhibitry should be the goal of all exhibit planners. Planners dealing with historical themes often have a wealth of objects at hand that are or can be humanistically related. The challenge is greater for natural-history planners, who must often seek new solutions to create the dynamic quality that the exhibits require, and the geologist-planner has perhaps the greatest challenge of all--because a geological exhibit, if poorly done, can be deadly.

At the Grand Canyon, the major exhibit was a 3-minute clock, each tick of which was equated with 11 million years of earth time. The highlights of both geological and biological history were backlit on the clock's face as the cycle unfolded, and, in synchronization with the master clock, the biological highlights were pictured on one panel and the geological succession unfolded on another. These panels flanked the central clock.

At Ice Age, the difficult glaciation story was told by showing the earth as it was 18,000 years ago, at the height of extreme glaciation. Life as it existed then on all the continental masses was shown by means of original art on the map face. Visitors can relate to this map, see the differences in the land masses, and see the animal forms that dwelled there--some familiar, and some bizarre and long gone.

In both visitor centers, the complexities of the geological story were omitted, and the exhibits were kept simple. In one case, the sequence was animated by means of a clock; and in the other, the sequence was stopped altogether, and, as in a history exhibit, only one moment of time was exhibited.

EXHIBIT PLANNING

Pre-planning

The first step in the exhibit-planning process is pre-planning, which begins with the development of an interpretive prospectus or equivalent plan. This plan is based on a master plan for the area, and identifies the raison d'etre of the site, which media should be used at various locations, and a general outline of the content to be included.

The prospectus/plan is developed through a team approach, which assures input from subject-matter specialists, media specialists, and managers. For example, a typical National Park Service interpretive-planning team includes an interpretive planner, an exhibit specialist, an audiovisual specialist, a principal park interpreter, and possibly other park staff. A team for a county park would probably include someone from the headquarters office, a park interpreter, a park manager, and someone from the county commission.

The interpretive-planning team's primary mission is to establish broad goals that will guide development of future interpretive devices, including exhibits. They will need to decide if exhibits are an appropriate method of interpretation for that site; if exhibitable objects are available; and basically what can be communicated.

Goal-setting

Let's say that exhibits have been determined to be a valid medium for aiding interpretation at your site. The exhibit-planning process begins by your setting attainable goals. As in planning any interpretive event, you will need to establish who, what, and why:

1. Who is your audience?
2. What do you want to communicate?
3. Why communicate? (This is the purpose for the exhibits.)

1. Know your audience. This will help you determine better content and design. Is there a high percentage of return visitors--or are visitors mostly new to the park? How many people in groups are children--families--senior citizens--foreign visitors--handicapped? What backgrounds--such as urban, rural, blue-collar, professional, ethnic--are

represented? If you are planning a new facility in a new park area, whom do you want to reach?

Not only do you need to know who your potential audience is, you should have a good idea of why they are using the area or facility. What are your visitors' expectations? For example, if most people are visiting the area to hold annual family reunions or group picnics, you may not find much interest in exhibits identifying 39 species of trees or outlining 300 million years of geologic history.

2. Decide the content, themes, and what to communicate. What you decide to communicate through exhibits should be based on assessment of the purpose of the area you are dealing with, tempered by your knowledge of how exhibits are most effective.

3. Decide on the purpose for the exhibit. Set attainable goals. These goals should not be too specific; rather, they should establish the general tone or feel of the exhibits. Well conceived, attainable goals are necessary to establish a framework--that is, guidelines for exhibit design in which the content relates to the audience.

   As an example, if we are setting goals for the Sugarlands Visitor Center in the Great Smokies, we would not seek to have visitors learn 20 different trees that occur in the forest, or what animals might be specific to each of the many life-zones. Rather we would seek to have visitors learn that this is one of the most biologically rich areas in the world, due to the abundance of rain, shelter from glaciation, and variety of elevations, to name but a few reasons.

   Another example might be Mt. St. Helens Visitor Center. An attainable exhibit-planning goal might be to make visitors aware that something dramatic occurred here; that the earth's crust is constantly changing; and that what happened here may certainly reoccur again--here or elsewhere. If we were to attempt to interpret all the intricacies of a volcano's plumbing, plate tectonics, and other specifics of volcanology, we would be doomed to failure.

The Field Trip

Once you have established your exhibit goals, a two-person team comprised of designer and planner-writer takes over the nitty-gritty exhibit planning.

The team makes a field study to become familiar with the whole park; with the facility that will house their exhibits; and with other functions that will be served in the building.

The designer needs to know the spaces, and their dimensions; climatic conditions; and special problems of the area. Both designer and planner-writer need to become familiar with the exhibitable resources and the themes/ stories making up the content of the exhibits.

The Conceptual Plan

After analyzing the site and reassessing the previously established goals, the exhibit-planning team develops a conceptual plan. This is often nothing more than a floor-plan showing which exhibits will go where, sketches showing how they will look; a narrative description that identifies the content of the exhibit units in relation to the established goals; and some indication that the proposed exhibits can communicate what is desired. The conceptual plan may also include a model.

When the above information has been provided, the conceptual plan is ready for review. It may be approved as is; more likely, scrutiny by park managers will result in some modifications.

Thorough review of the conceptual plan is crucial. Errors can be corrected at much less cost in both time and money at this stage than they can later in the planning process.

With approval in hand, the exhibit planners can now proceed with execution of the final plan.

The Final Plan

Development of the final plan is a process of organizing and fleshing out the conceptual plan. Plan drawings are detailed; specific objects and graphics are selected; and final copy is written. This can be the most time-consuming stage in the entire planning process. When complete, this "package" is reviewed once more by the same people who reviewed the conceptual plan. After final approval, fabrication and installation may proceed.

Evaluation

There is another step in the planning and development of exhibits that is all too often overlooked: evaluation. Often, if it is done at all, it is done by the planners of the exhibits alone--which has obvious disadvantages. (After completing exhibits for the Grand Canyon, Ice Age, or Mt. St. Helens Visitor Centers, we who have planned them are apt to be something less than completely objective in evaluating them!)

Those of us in the exhibit world have begun to realize that there must be a better way to evaluate what we have done, so we can improve our exhibits. Most important, by evaluating the first, we can avoid repeating errors, duplicating pitfalls, and thereby improve our subsequent efforts.

If we have done our "homework," and have determined early in the planning process what our goals are, we then have already completed an important step in exhibit evaluation. However, the difficult steps still lie ahead. Have our exhibits achieved the goals that we set for them? Have visitors gotten the messages that we wished them to get?

Sociologists have developed several approaches to exhibit evaluation. Both ultimately involve visitor input.

The formative approach: This is a rather complex, built-in method of evaluation. Goals are set, involving visitor input early in the planning process. Pre-testing is frequent during exhibit development, with changes effected in the plan that are based on test results. Post-testing and further refinements follow the installation of the exhibits as directed by the final approved plan. Logistic and bureaucratic problems almost totally preclude many organizations' adoption in toto of this methodology, but parts of the total process can certainly be applied.

The summative approach: This method is also based on visitor input relating to our goals early in the game. Visitors are re-canvassed after installation to see how we have achieved our goals. For the National Park Service, this seems to be the more valid approach, because our planning and fabrication are often accomplished thousands of miles from the visitor-center site involved. Frequent testing and changing during the planning stages would create impossible impasses. We find it easier to set our goals; formulate and execute our exhibit plans, based on these goals; and then evaluate and change if necessary at a later date.

In any case, some method of evaluating your exhibit efforts should be considered early in the planning process, and funds and time should be budgeted to allow follow-up later. We have all come to realize that at times there is a great chasm between what we want visitors to get, and what they actually got. A sound evaluation program can bridge that gap.

THE FUTURE OF THEME INTEGRATION IN INTERPRETATION

Donna Kostka*

Up to now, agencies at the various levels of government have tended to categorize the type of work they do and the kind of people they hire into either a "natural" or "cultural" orientation.

Why? That's a difficult question to answer. One possible answer is that every agency had to start somewhere. So, there was an initial person, funding source, or political tactic which made it possible to get a program started. But, then, the categories stuck.

We are at a milestone mark in the history of our various agencies. We are gathered together here to try to understand why natural and cultural interpreters feel so segregated. Only by understanding why can we get together and handle our tasks (which often don't categorize) more efficiently.

The Puzzling Dichotomy

Let's take a quick survey to find out the extent of the problem. I will read a list of names on signs you might commonly see around the country. You try to decide whether the area is natural or cultural (and therefore needs a natural or cultural interpreter).

Recreational River	Wildlife Management Area
Cultural Site	Wildlife Preserve
Scenic Trail	Archeological Site
Natural Area	Scientific Reserve
Wildlands	Recreational Park
Recreational Area	Park Preserve
Conservation Area	Nature Center
Interpretive Center	Trailhead
Visitor Contact Station	Museum
Refuge	Closed Area

If you feel confused, just think of the public. How are visitors to know what to expect with this hodge-podge of names? How should they behave? Where should they seek information or report problems? How can they know if they are calling on the city, county, state or "feds"?

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Why the Dichotomy?

A root of the naming problem extends back into our country's history. Many of the immigrants who came here had lived in crowded or poor conditions across the oceans. They saw our country as a wealth of natural resources.

Even though they proceeded to tame the forests, push back the Indians and deplete the wildlife, they barely realized that the "myth of superabundance"* ever would run out. Some of our so-called early "naturalists" such as Emerson and Thoreau still saw our country as more beautiful than it ever was--even in the 1800's. The Romantic Age artists painted our landscapes by just leaving out the "uglies" that might be in the way.

With this history of over-appreciation of natural areas--even when they weren't natural--our society was slow to recognize the true extent of cultural development.

Where culturaldevelopment was recognized, it too often was narrowly defined. For example, how many restored forts or houses have you seen--with urban-type buildings extending right up to their back fences?

So here's our problem: As a society, we have tended to (1) call areas "natural" even when they include much human development, and (2) see cultural areas as separate from their "natural" settings.

Our popular definition of natural is too broad and of cultural--too narrow. And by separating the two, we fail to see true interconnections.

Despite all the good work and intentions of our agencies there is a good possibility we are working against developing the public's environmental ethics every time we perpetuate the old definitions.

What Would Help?

The way out of this dilemma probably is very complex and long range, but two steps definitely would help:

(1) As many agencies--or as many governmental levels as possible--should try to get together and decide on standard terminology for the naming of areas. This would help to diminish the amount of confusion in the minds of the public about what to expect and how to behave. And, it could enhance the image of each agency. For example, instead of viewing all agencies as "the DNR", the

*Udall, Stewart L. THE QUIET CRISIS. NY: Avon Books, 1963

differences between agencies would become more apparent. (2) As professionals and as agencies, we should work toward establishing realistic definitions for "natural and cultural". This step would help our agencies and the public appreciate what really is "natural" and how people influence their environment. For example, an area with a manicured lawn would be a "cultural" area--not a "natural" area.

What Are Good Definitions?

According to Webster, "natural" means: "a state of nature untouched by the influences of civilization and society". The U. S. Fish and Wildlife Service followed that definition when it set up criteria for two types of natural areas within the refuge system:*

A Research Natural Area is

> ...part of a national network of reserved areas representing the full array of North American ecosystems: biological communities, habitats, and phenomena; and geological and hydrological formations and conditions. They are areas where natural processes are allowed to predominate without human intervention. However, under certain circumstances, deliberate manipulation is utilized to maintain the unique feature that the research natural area was established to protect.

A Public Use Natural Area is

> ...a relatively undisturbed ecosystem or sub-ecosystem that is available for use by the public with certain restrictions for protecting the area. Such an area must possess exceptional value or quality in illustrating or interpreting the natural heritage of our Nation.

Both types of natural areas require minimal management by our agencies and minimal use by the public.

These definitions make it clear that an impoundment, campground, etc. are not natural areas.

The requirements established for research natural areas are supported and recognized by the Federal Committee on Ecological Reserves. So, a start has been made in reaching some common

*Draft of USFWS REFUGE MANUAL, (9 RM 11, Summer 1980)

ground on terminology within the Federal government.

Webster, too, can help us with a definition of "cultural": "(relating to)...the integrated pattern of human behavior that includes thought, speech, action, and artifacts...."

In other words cultural areas are the result of human activities. So, impoundments and campgrounds <u>are</u> cultural areas.

We tend to think of cultural areas as areas with exceptional human qualities such as burial grounds and old forts or other buildings, when cultural areas really include many of the so-called "management" areas run by our agencies.

It may be difficult for our wildlife biologists, soil scientists, and foresters to accept that they probably are working in cultural areas rather than natural areas.

(Perhaps there's a bit of that Romantic Age of Emerson and Thoreau in all of us.)

<u>A Closer Look at Management</u>

Let's take a closer look at the places we call "natural" today. There are three kinds:

Native--the same as it was several hundred years ago
Restored--returned to its native habitat condition of several hundred years ago
Established--set up with no thought to restoration of a native habitat

If you go farther back than a hundred or two hundred years, you'll find that the succession of habitats varied with the glacial periods. Traces can be found in seeds found at the bottoms of lake beds, in deep peat, in fossils, and in our fossil fuels.

If we can come to recognize the fluidity of habitat succession and the degree of human manipulation, we will have no embarassment at including management in the realm of cultural activities.

Type or Condition	Degree of Agency's Current Human Manipulation	Public's Current Image	Public's Future Image
Native	present	natural	managed (cultural)
	absent	natural	natural
Restored	present	natural	managed (cultural)
Established	present	natural	managed (cultural)

"NATURAL VS CULTURAL" MODEL

After all, the big message many of our agencies have to give the public is management. The habitats in our country which are intensely used by wildlife or the public--such as impoundments or campgrounds--require much work to keep their carrying capacity up to desirable production, use, or esthetic standards.

Our agency's ability to manage is something we should be proud of and something the public should be aware of.

An Integrated Approach

Land and man's use of it is integrated. Change continues. The resource management we do today is just one form of human manipulation of resources and is just as legitimate in our time as the pioneer's clearing of the land was in his time.

If we can integrate our themes so that the public can see broad relationships, people may begin to understand that a managed area is OK. We don't have to put on rose colored glasses and call it a "natural" area, when it really is not.

Money and manpower also may be easier to obtain if natural and cultural interpretive themes are integrated in our administrative systems. Then, interpretation can become part of the bloodstream of our work with land and the public--instead of a cosmetic addition.

Let's take off our coonskin caps and get ready to join the 21st century.

INTERPRETATION CAN HELP

Raymond Blum

This paper will identify management problems relating to Seneca Rocks, a natural landmark located on the Monongahela National Forest in West Virginia and how interpretive input has helped in management decisions.

The uniqueness of this part of the Monongahela National Forest led to the creation of the Spruce Knob - Seneca Rocks National Recreation Area (NRA). It is one of only two national recreation areas located east of the Mississippi River. The 100,000 acre recreation area is only a small part of the Monongahela National Forest, however, it attracts large numbers of recreation users including rock-climbers, hikers, kayakers and wilderness users.

Seneca Rocks is the heart of the National Recreation Area. The Forest Service built a Visitor Center at the foot of the rocks as the information source for the entire National Recreation Area.

Since Seneca Rocks is one of the best known natural landmarks in West Virginia, hundreds of thousands people visit the rocks each year. Problems have developed in the use of the rocks because of the impact of too many people. Rock-climbing has been a traditional use of the rocks since the Army used it for a training ground during World War II. Seneca Rocks is considered to be the best vertical climb in eastern United States. Because of this, the demand for rock-climbing is increasing every year. The rocks are climbed throughout the entire year with over 100 people climbing the rocks per day on weekends during the summer. With the popularity of rock-climbing increasing it's no doubt that the use of the rocks for this sport will also increase.

Because of the unique features of Seneca Rocks, many people find it desirable to hike to the top of the rocks. The location of the Visitor Center compounds the problem of hiker interest. Over the years the demand for this activity will continue to grow and at probably a much faster rate than the demand for climbing. Unless access is restricted, people will climb to the top of the rocks.

The result of these two interests is a conflict between user groups. Rock-climbers do not like hikers on the rocks because of the danger when rocks are thrown off the top by hikers. Hikers feel that they have a right to hike to the top of the rocks regardless of how the climbers feel.

Concerns of the Forest Service are twofold. Visitor safety, and reducing the extensive soil erosion caused by too many people using a fragile area. The trails to the rocks are located on easily eroded soil and at slopes ranging from 35% to 70%. The result is that the "Scramble Trail" (a trail on the backside of the rocks located in a gully) has been eroded up to 75 feet wide and several feet down. Erosion is not limited to this trail, all of the other access routes are eroded to varying degrees.

During the winter of 1979, Raymond Blum (Director - Seneca Rocks Visitor Center), and Lowell Petersen (Assistant Ranger) wrote an Environmental Assessment on climber and hiker access to Seneca Rocks. The Environmental Assessment listed the following issues and concerns, and affected environments:

Issues and Concerns

A. Provide for Visitor Safety: The rocks should be as safe as possible for visitors. If hikers are allowed on top of the rocks, some sort of barrier should be installed and signed to keep visitors from exploring on the rocks. Access trails to the rocks should be kept in as good a condition as possible. If trails are excessively steep or hazardous, then they should be signed as such.

B. Reduce Soil Degradation: All trails should be built and maintained to keep soil degradation to a minimum. Eroded trails should be relocated and seeded. Water bars should be installed on existing trails where needed.

C. Manage Seneca Rocks for Viewing: Any development of the Seneca Rocks area should maintain its natural beauty.

D. Provide Access to the Top of Rocks for Climbing: Rock-climbing has been and is a popular and legitimate use of the rocks. We should continue to provide access to the rocks for this sport.

E. Least Restriction on Hikers: The ideal situation is no restriction on where hikers may go. They would like to be able to hike to the top of Seneca Rocks.

F. Easiest to Administer and Enforce: Since this District has no real law enforcement capabilities, the alternative which requires little administration would be ideal.

Affected Environments

A. Soils and Water: The soil around Seneca Rocks is a colluviel soil on top of Medina Sandstone. These soils are rated severe (over 35% slope) and are easily eroded.

Roy Gap drains the area from North Fork Mountain and Seneca Rocks into the North Fork South Branch Potomac River.

B. Vegetative Cover: The primary cover of Seneca Rocks consists of oak-pine woodlands with lesser vegetation consisting of mountain laurel and witch-hazel. The site index for this area is less than 40, which is considered unproductive forest land.

Table Mountain Pine, an uncommon species is found near the top of Seneca Rocks.

C. Visual Qualities: Since Seneca Rocks is one of the most recognized natural landmarks of West Virginia and is viewed by thousands of people every year retaining the natural character of the rocks is a concern. The visual quality objective for Seneca Rocks is retention.

D. Technical Rock Climbing Use: Seneca Rocks is considered to be the best vertical climb in the eastern United States. Because of this, the demand to use the rocks for climbing is increasing every year. The rocks are climbed throughout the entire year with over 100 people climbing the rocks per day (at times) during the summer. With the popularity of rock climbing increasing it's no doubt that the use of the rocks for this sport will also increase.

E. Hiker Use: Because of the unique features of Seneca Rocks, many people find it desirable to hike to the top of the rocks. The location of the Visitor Center compounds the problem of hiker interest.

The procedure at the Visitor Center for requests on how to get to the top of the rocks is to discourage hikers. This is done by stating the nature and hazardous condition of the trail. Despite this procedure, an average of 10 people per day say that they are going anyway and want us to draw them a map.

Over the years the demand for this activity will continue to grow, and at probably a much faster rate than the demand for climbing. Unless access is restricted, people will climb to the top of Seneca Rocks.

F. Cultural Resources: A cultural resource analysis has been done by Al Stevens and no sites were found on the Scramble Trail. A site is located along Roy Gap Road at the bend located approximately half way between the bridge and the rocks. This area contains flakes and projectile points. The area is presently used by campers.

After the Environmental Assessment was studied and reviewed by a Forest Service I.D. Team, the following actions have been taken:

A new access trail has been built on the back side of the rocks. The trail has been built on a rock ridge that will not erode to nearly the extent that the old trail has. The old "Scramble Trail" is being fenced off to prevent visitors from using it. The area will then be seeded, mulched, and fertilized to allow vegetation to become re-established.

All of the existing climbing trails will be rehabitated to reduce soil erosion and to provide safe rock-climbing access.

Non-climbers or hikers are discouraged from hiking to the top of the rocks because of the steep nature of the trail (up to 60% slope) and the unsafe nature of being on the top of Seneca Rocks. Once on top of the rocks people have a tendancy to explore the narrow rock and the chance of injury or death is too great. Discouraging hikers from using the trail is done in two ways. Signs have been posted at all access trails listing the climbing routes that the trail serves. All trails are marked "Climber Access Only". Several other signs explain that trails have been fenced off because of severe erosion and ask for visitor cooperation.

The Visitor Center staff also discourages hiker use by explaining the steepness of slope, narrow rock surface, and other dangers involved to all visitors who ask for a way to hike to the top of the rocks.

A separate hiking trail that will provide safe hiker access to a viewing platform near the top of the rocks is being studied at this time. An Interpretive Specialist, Landscape Architect, Soils Scientist and Forest Engineer are studing the feasibility of building such a trail and more importantly, how this trail will affect the rocks in use and retaining its natural

character. The decision on this will probably be made in late 1980.

A second way in which interpretation has helped the Monongahela National Forest is in the programs being offered at the Seneca Rocks Visitor Center.

The land for the Center, a campground, picnic area, and the rocks themselves were condemned and purchased by the Forest Service. The results were hostile feelings of local residents toward the Forest Service and Visitor Center. In an effort to break down these feelings the Visitor Center is conducting programs aimed for local residents.

The idea is to help residents realize that the Visitor Center is for them, something they can benefit from, not something only for tourists. The process hasn't been easy. Many residents said that they would never step foot in the Center, but today, after only two years of operation, many of these folks not only visit the Center but are good friends of the staff.

How did this occur? First of all when folks would complain about the land acquisition, we listened. Told them how we felt, and showed compassion for them. For many, they realized that someone in the Government actually cared and I feel this helped build a positive attitude for the Center. Another thing we did was to offer interpretive programs aimed not only to visitors, but also to local residents. The most effective has been what we call "Mountain Music Night". A program in which a local bluegrass band puts on a free concert on the lawn of the Center. Approximately 60-70% of the 500 people attending are from surrounding communities. Special winter programs on wildlife and winter survival have been successful for the past two winters. This summer a blacksmithing demonstration will be given by two local residents. What's next, well we're planning an art fair, heritage week, and the showing of the work of local artisian and craftsman at the Center. These programs are in addition to the more than 27 different interpretive programs given at the Center. The way we see it, the more we involve our local residents in the operation of the Center, the more pride and trust we receive from them.

AN AUSTIN-TATIOUS APPROACH TO MANAGEMENT OF INTERPRETIVE PROGRAMS

by Tom Christensen, Supervisor
Outdoor Nature Programs
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Austin, Texas

INTRODUCTION

In 1974 the Austin Parks and Recreation Department (Austin, Texas) undertook the systematic development of a city-wide program for outdoor nature activities.

The department had at that time a small nature center, (Austin Natural Science Center) but had experienced unprecedented population and territorial growth in the late 60's and early 70's. This growth was demanding that a cost-efficient system be developed that would provide services to a fast growing city.

The Outdoor Nature Programs section of the Department was formed in 1974 to achieve this goal.

Six years of successes and failures may provide an interesting insight as to how an interpretive programming system is planned, developed, and managed in a sunbelt city of 450,000 people.

This examination of the management approach and philosophy used in Austin may serve others in their search for a better grasp on decision making in our fast-changing business of interpretation.

I. WHY A SYSTEMATIC APPROACH?

- Good ideas don't insure success -- good management does.
- Competition for the leisure dollar and time space is vicious and will get tougher.
- The Interpretive business in many cases takes on an evangelical purpose; to win converts to "our" values. Such an approach demands a systematic management plan.
- A good percentage of current interpretive programming is conducted by federal, state, and local governmental functions. Without a clear concise plan for success even the best idea will fail. (Have you signed a CETA contract lately?)
- Lack of a sound management plan can quickly lead to (1) undefined goals and services, (2) low productivity, (3) lack of accountability, (4) many times resulting in long-suffering programs that never fulfill their intended purpose and slip at last into "Interpretive Martyrdom" that all too familiar calamity when "the world just doesn't understand".
- Lack of a good management plan will also ignore a programs' focus on their MARKET.

II. WHAT IS A MARKET?

- A discernable group of consumers who choose to exchange or trade for goods, services, or other items of value.
- The key to a market definition is choice and demand. Choice is for interpretive programming the reality of other options that are available during leisure time and take up disposable income. Demand is the something that is sought after by consumers.
- The choice is this:
  (1) Therapeutic Approach - "I will produce interpretive services that I know people need or should have. (programming by prescription); or
  (2) Market Approach - "I will produce interpretive services designed by what people say they want, demand, and will choose to do."

WHAT IS THE AUSTIN (TEXAS) MARKET
FOR OUTDOOR NATURE PROGRAMS?

Basic Market Information (items and Austin characteristics)

Per Capita Income - extremely high; predominant upper-middle class income grouping, but with fewer millionaires than other major Texas cities.

Disposable Personal Income - high; Austinites' personal disposable income (by household) nearly equals the national average gross household income.

Per Capita Level of Education - extremely high; predominance of high technology industries, state agency employment and University of Texas hiring, create a highly educated white-collar population.

Population Density - low; Austin still remains a city of private residences with a "country living" ideal for personal housing. Downtown area is still primarily retail and office with a small residential population. Austin has and continues to grow along the IH-35 corridor creating a long oval-shaped city.

Leisure Habits/Attitudes - Austin is a participatory city where spectators are rare and participants are abundant. Austin prides itself on its "Quality of Life" and the leisure opportunities available. Community volunteer organizations are abundant, effective, and represent almost every area of endeavor.

Other items examined but not discussed here are: Competition, age, sex, ethnic origin, transportation, and other more detailed census and commercial data.

III. WHAT RESOURCES REALLY MAKE A DIFFERENCE?

- We interpretors are fond of identifying "our resources" and developing programs around those.

- A market approach examines the resources in light of which aspects represent an area of demand on the part of the consumer.
- Resources also include those items necessary for the success of the management plan such as finding resources and the possible community support groups.

Resources and Austin characteristics

Water - The Highland Lakes dominate the landscape in the Austin area with its many feeding creeks and streams.

Geographic - Austin is situated on both sides of the Colorado River where the Edwards Plateau gives way to the Great Coastal Plains.

Climatalogical - Mean annual temperature is 68.2°; Winter-55°; Summer-86°; thought by most to be extremely desirable.

Urban Leisure (use radius - 100 miles) - A vast wealth of recreation opportunities including many navigable rivers and streams, a great number of man-made lakes, Edwards Plateau, hill country, other small cities of cultural and recreational interest, San Antonio, and many fine entertainment and recreational opportunities.

Community Support - Austin continually provides active community support organizations for viable community projects.

Funding Sources - Municiple funding for recreational functions is second in the State only to Dallas and fee-based programming has a substantial history.

IV. WHICH MANAGEMENT SYSTEM DO I USE?

There are many types of systems for delivery service and management. Outdoor nature interpretive programs could use any of the following systems.

SAMPLES OF DELIVERY SYSTEMS

Franchise - same thing in many locations

Centergistic - only one; try to be unique

Market-Pulse - go where the market is, i.e., nature mobiles

Piggy Back/Shadow - be near some other complementary function

Hub-Spoke - A central headquarter with mobile programs and satellite facilities.

NOW FOR AUSTIN'S CHOICE

Austin chose the Hub-Spoke System due to its inclusion of a central facility to give image but allowing for the flexability of market-pulse with mobile programming and the expansion capability of satellite facilities.

ALL THAT'S NEEDED NOW IS A "WHY WE DO IT" PHILOSOPHY

Every organization needs to know why it is in existence. An outdoor nature program in Austin, Texas also needs a guiding philosophy that will be seated in the basic market evaluation that will discipline product selection.

AUSTIN'S "WHY WE DO IT"

1. The Earth is worth preserving
2. All people are created equally selfish
3. People preserve only that which they <u>enjoy</u>

V. SO I'VE GOT A SYSTEM - HOW DO I MAKE IT WORK?
<u>Hub-Spoke System in Austin, Texas</u>

HOW IT IS PAID FOR

- The existing municipal sponsorship as a function of the Austin Parks and Recreation Department provide an ideal base in the progressive and nationally recognized department.
- Growth will certainly be based on our fees.
- The Austin market is also encouraging to the contractual market with other agencies and local industry.
- Community support will play an important role in capital improvements and program scholarships.
- Endowments, donation catalogs, and concessions must be developed to insure success.

COMMUNITY INPUT

Austin had already developed the Austin Natural Science Association, Inc. and the Austin Natural Science Association Guild, Inc. The Association serves as the official advisory board to this municipal function and can continue to serve as the input for all groups who are an outdoor nature related organization, as well as raising funds for capital improvements and scholarships. The Guild continues to provide volunteer service for the majority of school programs and to also raise funds for the capital improvements and scholarships.

THE SYSTEM FOR AUSTIN

<u>Hub</u> - The Austin Nature Center will serve as the center of the system and will be comprised of a 70-acre preserve in the center of Austin on Town Lake in Zilker Park. Services from 5 different buildings will include exhibits, trails, water, and land programs and concessions developed both for the registered participant and the spontaneous visitor.

This facility will serve as the trail-head for the outings program with a field trip embarkation wing and will also serve as the administrative headquarters for the entire city-wide operation.

<u>Spokes</u> - Outreach programs will be held in neighborhood recreation centers, summer camps, schools, daycare centers, local industries, senior citizen centers, shopping centers, local theatres, playgrounds, and other sites in a 100-mile use radius.

<u>Rim</u> - The rim is comprised of facilities and programs that are complementary, supplementary, and in most cases

smaller in operational scale than the hub facility. These include:

Pioneer Farm - working farm of mid 1800's where participants and visitors keep it going.

Mayfield Park - a unique 30 acre preserve with historical gardens and nature trails on Lake Austin.

Lake Long and Austin Metro Preserves - each is a large acreage preserve with proposed trail-head buildings and trail systems.

Camp - a proposed camp to be used for weekend sessions, summer sessions, and weekday school camping programs.

VI. WHAT DOES THE FUTURE HOLD?

Change! The 1980's, by all prognosticators, is going to be a decade of change in the world of business and government.

Many say there will be significantly less government operations by 1990. That means many interpretive agencies will be quickly pushed into the world of profit and loss.

The items affecting the future of urban interpretation certainly include:

- less government spending
- transportation trends
- working families and daycare programs
- school busing
- inflation and disposable income

The 80's will certainly create a strong test of our management systems. The Austin Parks and Recreation Department is hopeful that the management system for its Outdoor Nature Programs section will prosper during this period of change.

PROBLEM SOLVING/LEARNING THROUGH USER INVOLVEMENT IN PARK STEWARDSHIP PROGRAMS: A STEWARDSHIP MODEL

Donn P. Werling, Ph.D.

The rapid growth of the interpretive profession at the grassroots level (local/regional parks/centers) requires that the interpreters in such settings do more than provide for the "one shot" interpretive experience on which national and international level park interpreters concentrate.

Research by Kostka has found that even with sophisticated pre- and post-activities leading up to and reinforcing a nature center visit, no significant educational impact on school children was found. Further, in the December, 1979, issue of Nature Center Associates' News and Comment, the present emphasis on school age programs by nature centers was questioned in part because of the rapid aging of American households. Further, in a seminal article by Grant Sharpe, "Interpretation as a Management Tool", it is proposed that interpreters must become problem solving tools of management. In this presentation, the culmination of seven years of work/study and research in addressing these above concerns through conceptualization and implementation of a park stewardship model are presented.

Evolution of Model (see Fig. 1)

Application of the Model To the Study Location

Development and application of this model has proceeded at the Ladd Arboretum and Lighthouse Nature Center (both with visitors centers) and one County Forest Preserve site in Evanston, Illinois. Experimental evaluation of the model was limited to selected fourth and fifth grade pupils in nearby schools (see below). Other significant successes have, however, been achieved in solving the following parks related problems: development of a voyageur canoe program and evening interpretive events to involve youth in positive evening lakefront activities to reverse drug trafficking, drinking, and vandalism at a National Historic site, the Grosse Pointe Light Station; involvement of local scouting and community groups in reversing the vandalism and destructive site management practices (mowing of natural forest to halt crime) at a County Forest Preserve site; halving the energy bill of the Ladd Arboretum Ecology Center by offering the building as a laboratory through which literally hundreds of citizens have actively participated in the insulation, solar

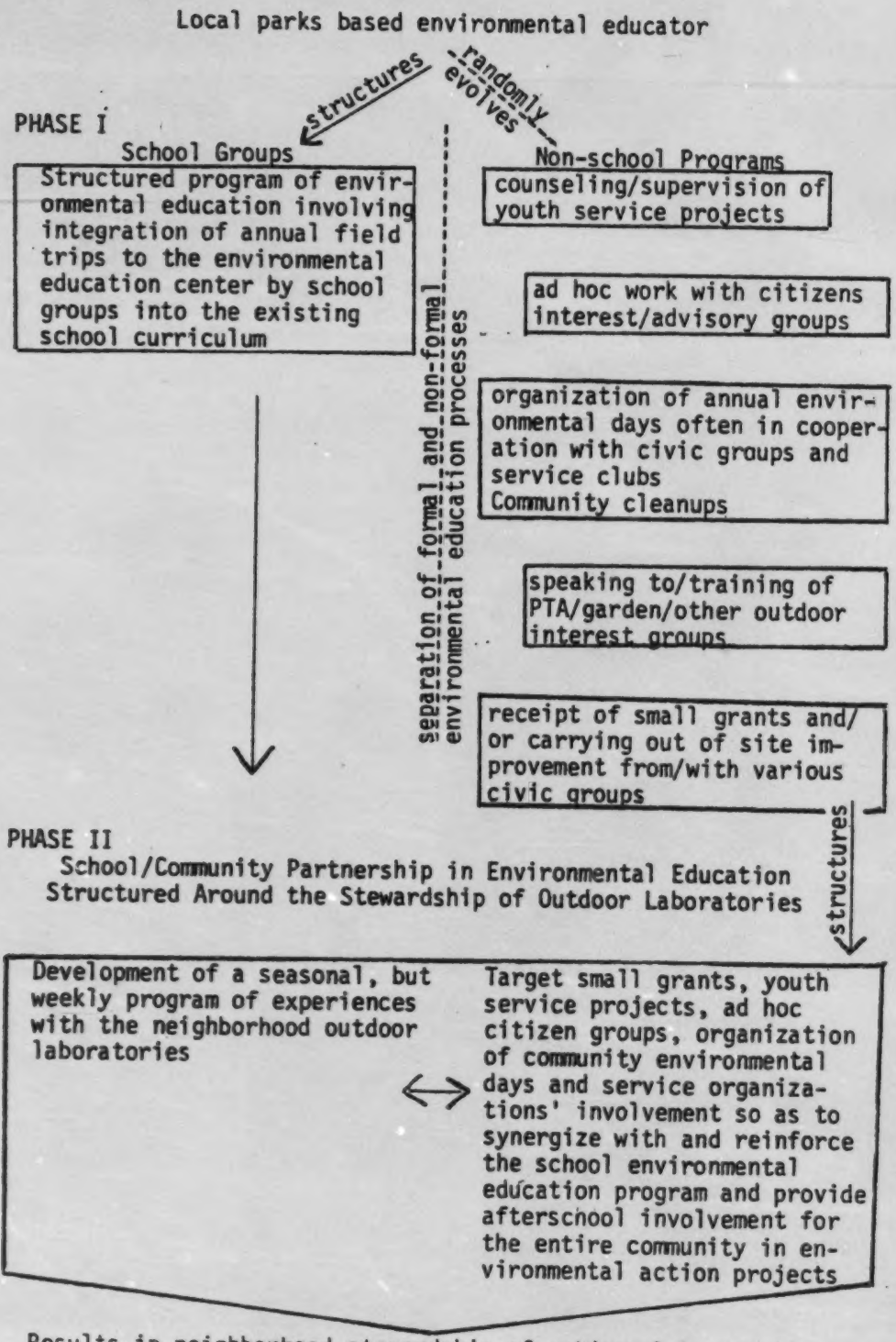
Local parks based environmental educator
structures
randomly evolves
PHASE I
School Groups
Structured program of environmental education involving integration of annual field trips to the environmental education center by school groups into the existing school curriculum
Non-school Programs
counseling/supervision of youth service projects
ad hoc work with citizens interest/advisory groups
organization of annual environmental days often in cooperation with civic groups and service clubs
Community cleanups
speaking to/training of PTA/garden/other outdoor interest groups
receipt of small grants and/or carrying out of site improvement from/with various civic groups
separation of formal and non-formal environmental education processes
structures
PHASE II
School/Community Partnership in Environmental Education
Structured Around the Stewardship of Outdoor Laboratories
Development of a seasonal, but weekly program of experiences with the neighborhood outdoor laboratories
Target small grants, youth service projects, ad hoc citizen groups, organization of community environmental days and service organizations' involvement so as to synergize with and reinforce the school environmental education program and provide afterschool involvement for the entire community in environmental action projects
Results in neighborhood stewardship of outdoor laboratories

Fig. 1 Evolution of a School/Community Stewardship Model

retrofit, and construction of a solar greenhouse and two windmills that has had numerous community spin offs and received local, state and national attention and awards. Following is the abstract specifically evaluating emplementation of the model within local schools.

Evaluation of 4th and 5th Grade Pupil Involvement With the Model

The purpose of this study was to develop a school/community stewardship model, to implement the model and to evaluate selected fourth and fifth grade pupils' use of school site and neighborhood outdoor laboratories for environmental education. The research design compared SCIS (Science Curriculum Improvement Series) taught indoors both with and without environmental lectures to a modified SCIS outdoor environmental education approach to site stewardship. The experiment was conducted in order to determine whether there was a significant difference among the three (3) instructional modes in the change of pupil knowledge of selected ecological and environmental concepts, understandings and facts. The relationship between knowledge and feelings and pupil behavior toward the environment was also investigated.

Emphasis was placed on developing a model whereby parks based (nonformal) environmental educators can act as organizing forces to move from an initial phase of having school, youth and adult groups visiting the environmental education center annually to a second phase in which local school, youth and adult groups put environmental education into practice on a weekly basis by improving the stewardship (site development, maintenance and use) of school site and neighborhood outdoor laboratories. The end goal of the model was not only to increase instructional use and improve the ecology of outdoor laboratories, but to bring existing public and private formal and nonformal educational efforts into a synergistic reinforcing combination.

Six fourth or fourth/fifth grade classes at three schools with existing school site or neighborhood outdoor laboratories were nonrandomly selected for the evaluation of the model and assigned to either control group A (indoor science only), experimental group B (indoor science with an environmental education lecture) or experimental group C (outdoor science with a spin-off environmental education approach). A Solomon 4 Square Lasaac design was used to partially compensate for the nonrandom selection. The conceptual framework for the eight week series for all three groups was based upon SCIS: Environment or Communities. Indoor classes followed the regular SCIS regime. Outdoor classes extensively used OBIS (Outdoor Biology Instructional Strategies). Docents (volunteer teachers who assisted outdoor classes) were recruited and trained along with type C teachers through an 8-hour after school inservice program.

Pupil knowledge of SCIS concepts and environmental knowledge was pre- and post-tested using the local school district's test and a State of Illinois developed test of environmental knowledge. Pupil behavior was tested using unobtrusive measures for littering behavior and a sign-up for a stewardship day.

The strength of the research design and use of analysis of convariance coupled with step-wise regression analysis of pupil scores on chronological age and third grade reading and math scores enabled hypothesis testing to proceed. It was found that pupils learned SCIS life science concepts as well outdoors as indoors. Of greatest interest was the fact that the outdoor groups gained significantly (0.03) more environmental knowledge than either of the control groups as measured by the State of Illinois test. No significant relationship was found between knowledge of the environment as measured by the test instruments and littering and stewardship day response behavior. Additional research and refinement of the unobtrusive measures used was recommended.

It was concluded that the school/community stewardship model was practical and effective as applied to the study location. It was recommended that environmental education centers and schools adopt the model, improve upon it, and/or develop alternatives to the present emphasis on annual field trips.

Conclusion

The opportunity to involve the school children and the general public in helping to solve parks related problems should be considered part and parcel of an environmental education stewardship model on which park interpreters base their programming. Certainly helping people to "enjoy" their parks is and always will be part of the charge of local and national park interpreters. National and state park interpreters may have been able to luxuriate for a time, enjoying and helping others to enjoy their state and national treasures while from time to time expounding on national issues whose crisis conditions exist only far from the preserve. Clearly, however, whether from a perspective of self-preservation or refining and upgrading a profession the operational model which park interpreters use should become more closely aligned with the conceptualization that has occurred within the formal environmental education sector. A stewardship model of involving citizens in solving park related problems using the parks as outdoor laboratories would thus be synergistic for all concerned. Park managers are able to solve problems and gain citizen understanding and support. Park interpreters gain another "raison d'etre" and that profession is advanced both in stature and substance. Citizens have higher quality parks to enjoy, and learn something about the environment and how to effect positive change in the process.

All parties gain a better understanding of each other and progress is made on at least one set of environmental issues, the preservation and custody of open space resources for future generations.

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IS INTERPRETATION AT MUSEUMS AND VISITOR CENTERS "LEGIBLE" TO THE PUBLIC?

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CONTEXT

We have paid too much attention to the verbal aspects of interpretation, and too little attention to the nonverbal aspects. We often grapple with the wording of exhibit labels, signs, leaflets, scripts, and conversations, but seldom do we consider the nonverbal components of these interpretive media. Interpretive evaluation has been especially guilty of this over-emphasis on verbals. Our studies have too often focused on the single (and perhaps minor) dimension of verbal information retention as a measure of effectiveness.

We must remember that the information communicated by interpretation is both verbal and nonverbal. Factors such as lighting level, colors and texture of paper and paint, the enthusiasm in an interpretor's voice, and a friendly smile all "say" something to the visitor in a way that words cannot. If we were to decide which was more important to effective interpretation -- verbals or nonverbals -- the answer would likely be "nonverbals". Burgoon and Saine (1) underscore this point when they state:

> "... nonverbal messages are generally more powerful than verbal ones ... when verbal and nonverbal messages are in conflict, the nonverbal message is usually believed ... when the relative impacts of various verbal and nonverbal cues are compared in terms of their contribution to meaning, the nonverbal cues usually prevail."

This paper will focus on the nonverbal information intentionally and unintentionally communicated to visitors in interpretive environments such as museums and visitor centers. While we will emphasize nonverbal information communicated by the physical features of these environments, it should be noted that the nonverbals of interpretive staff are equally important to the visitor's experience.

Perhaps we will provide more questions than answers in this examination of nonverbal communication. However, if we wish to be truly effective and efficient in the interpretive offerings we present to the public, the examination of nonverbal communication

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must begin somewhere. We feel this area needs much more attention than it has recieved to date.

Let's begin the discussion with the following statement: The visitor's interpretive experience begins before he enters the door of a museum or visitor center, and is influenced continuously and strongly by nonverbals. The context established in the visitor's mind by such physical features as parking areas, pathways, and building exterior colors the visitor's receptivity to the interpretation contained therein. What is more, as the visitor enters the door, such features as the lighting level, degree of crowding or spaciousness, and the arrangement of furnishings set the tone of the experience. Further, the nonverbal features of actual interpretive media such as exhibits, audio-visuals, and demonstrations will likely have a stronger effect on the visitor's experience than will the verbal features.

How do we get a handle on this slippery issue of the effect of nonverbal features? One approach is to conceptualize such features as to their degree of nonverbal legibility.

NONVERBAL LEGIBILITY

It's obvious that written words can either be legible or illegible. What is not so obvious is that nonverbals can be either legible or illegible as well. Just as legible words can be deciphered in a coherent manner, so too can legible nonverbals. Just as illegible words lead to a feeling of confusion and frustration, so too do illegible nonverbals.

Kevin Lynch (2) established the concept of legibility as related to elements of a city's environment. Let's now apply a similar concept to nonverbal elements in museums and visitor centers. Let's ask the question: "What are nonverbals 'saying' to the visitor throughout built interpretive environments?" Put another way: "How are visitors perceiving the nonverbals in our built interpretive environments?"

Burgoon and Saine (1) tell us that various features of a physical environment serve as "message elements" to people within that environment. They organize such elements into nine categories: 1)size or volume of an object, 2)arrangement of elements, 3)materials (shape and texture), 4)linear perspective, 5)lighting and shading, 6)color, 7)temperature, 8)noise, and 9)the total amount of sensory stimulation.

Restaurateurs have long known the secrets of planning and arranging the nonverbal elements of restaurants in a coherent, legible manner in order to establish a desired "atmosphere". Much can be learned about providing a pleasant and satisfying interpretive experience by analyzing the nonverbal "message elements" that we are presenting to our visitors.

This is admittedly an extremely complex area. We can simplify our task, however, by obtaining a visitor's-eye view of the nonverbal interpretive experience.

VISITOR EMPLOYED PHOTOGRAPHY AND PUBLIC PERCEPTION MAPS

Visitor Employed Photography (VEP) involves the dispensing of simple Instamatic cameras to visitors at various recreational/interpretive sites, with the simple instruction to "photograph anything of interest or appeal during your visit today." In prior VEP studies (3)(4)(5), when the photos of large numbers of visitors to a particular site were developed, certain scenes appeared repeatedly.

These scenes, seen to represent areas of common visitor nonverbal interest, have been termed "consensus photographs". By definition, a consensus photo is one taken by 10% or more of all people passing that spot. The generation of consensus photos by visitors to built interpretive environments (such as museums and visitor centers) can provide us with a first cut in understanding the nonverbal legibility of those environments.

We believe that those aspects of the interpretive environment perceived in common by many visitors may provide a key to understanding the mental images and nonverbal memories taken from the site by visitors. In other words, consensus photos can help answer the question: "What are nonverbals 'saying' to the visitor throughout built interpretive environments?"

To study this point further, a VEP study will be conducted this summer at the University of Michigan Exhibit Museum. A 1978 pretest of the method at the museum revealed consensus photos stronger than any of those in prior VEP studies, which dealt with outdoor environments. The only modification of the method we envision for the museum study is the use of flashbars, to counteract the effects of dim indoor lighting. While we will focus on a museum interpretive environment for the study, the concepts we develop will be applicable to visitor centers as well.

When all the consensus photos from the museum study are isolated, they will be placed on a base map of the museum. The size of the photos will be proportional to the degree of nonverbal consensus interest they generated.

What we will have when this process is completed is a "public perception map" of the interpretive environment at the Exhibit Museum. Such a map will graphically depict commonalities in nonverbal perception of that interpretive environment as expressed by its visitors. Once we have such a map in hand, we will have a better grasp on the nonverbal legibility of that environment to the visiting public.

THE PUBLIC PERCEPTION MAP AND INTERPRETIVE PLANNING

At this point, the question might be asked: "Public perception maps and nonverbal legibility are interesting concepts, but of what use are they in interpretive planning?" We believe the answer is -- "extremely useful". Just as we can retype or otherwise modify a piece of writing that is illegible, so too can we modify nonverbals that are illegible.

After a public perception map has been generated for a particular interpretive site, special attention might be paid to those areas that were not perceived as consensus photos by the visitors. Obviously, all sections of all museums and visitor centers cannot and should not be high in their nonverbal communication value. However, those areas that seem to go unperceived by visitors deserve further scrutiny to determine whether such nonverbal illegibility is desired, purposeful, or strictly unintentional. A lack of public perception at these areas may indicate that nonverbal interpretation needs to be strengthened there.

The public perception map can also serve as a baseline tool against which we can document changes in the nonverbals of the interpretive environment. Public perception maps generated by visitors both before and after changes in exhibitry or exhibit arrangement can tell us whether those changes have caused a net decrease or increase in the nonverbal legibility of the environment. Did, for instance, a new life-size diorama of bison and Plains Indians decrease visitor perception of a formerly popular prairie dog exhibit nearby? Is the prairie dog exhibit now less legible nonverbally? On the other hand, did the new diorama not only produce a consensus photo of its own, but also bolster the consensus perception of the prairie dog exhibit because the two exhibits now reinforce one another? If the latter is the case, nonverbal legibility may have increased because the two exhibits are now perceived as part of a larger coherent pattern.

It is important to note that public perception maps may be most usable for the season or visitor use period in which they are generated. Winter visitors, for example, may differ in their characteristics, hence may perceive the nonverbals of the interpretive environment differently, than summer visitors. In order to be more confident of nonverbal legibility assessments made via public perception maps, such maps should be generated for each major use season or period of the interpretive site.

THE PUBLIC PERCEPTION MAP AND CARRYING CAPACITY

The potential link between public perception maps and the carrying capacity of an interpretive environment is an intriguing one. Lime and Stankey (6) speak of recreational carrying capacity as:

"the character of use that can be supported over a specified

time by an area developed at a certain level without causing excessive damage to either the physical environment or the experience of the visitor."

There would seem to be a natural linkage between the nonverbal legibility of a built interpretive environment and the density of visitors in that environment at any one time. Does the nonverbal legibility of the total interpretive environment, or of portions of it, fall off during times of high visitor use? In other words, are there fewer and weaker consensus photos in public perception maps generated during high visitor use? At what point does the density of visitor use begin to reduce the nonverbal legibility of the interpretive environment -- hence the quality of the visitor's experience?

Visitor density is an area not explored in prior VEP studies. Careful note will be taken of this variable in the upcoming museum study, in order to isolate any potential relationships between visitor density and nonverbal legibility in built interpretive environments.

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BEHAVIORAL PERFORMANCE STANDARDS FOR INTERPRETIVE CENTERS

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The introductory orientation to one of our nation's significant cultural or natural resources comes, for many visitors, while passing through an interpretive visitor center. It is estimated that more than 50 million people visited National Park Service interpretative facilities in 1979. This figure is matched several times by the interpretive facilities provided by other federal, state and local agencies, and private organizations. These facilities support a complex set of functions to accommodate the needs of users. This paper outlines some basic parameters that are useful during the planning stages for projecting an interpretive center's performance requirements.

The intended audiences for these comments are interpretive professionals who have little or no experience with specifying standards for interpretive exhibits and facilities design. However, during their careers they may be expected to provide information to a design team about how an interpretive center should function. The following summary of research findings from such diverse interpretive settings as National Parks, living history museums, and exhibit museums will provide some guidance. It focuses on the visitor's most basic characteristics, needs, and behaviors. These comments are suggested as a starting point. It is anticipated that the interpretive professional will need to adjust and add to them as appropriate to the specific situation in which he or she is involved.

PERFORMANCE STANDARDS APPROACH

The performance standards approach to specifying design solutions offers a useful vehicle for interpreters to use in providing information to design teams. When adopting this approach the focus is upon describing the effects desired from an interpretive facility. This is in distinct contrast to the specifications approach that prescribes specific sizes, colors, materials, construction techniques and <u>how</u> to lay out the center's floor plan. When using the performance standards approach, the interpretive professional is responsible only for describing the desired effects while the planners and designers are responsible for developing an environment suitable for achieving those effects.

VISITOR POPULATION

Surveys of interpretive center visitors (2) indicate that the average visitor is a little over 30 years old, has a college education, engages in a professional occupation, and is probably accompanied by one or two other people. However, visitors actually represent a whole range of socio-economic characteristics. Table 1 provides a typical profile of an interpretive center's visitors.

Table 1. Typical Interpretive Center Population

Characteristic		Typical Percentage	Expected Range
Gender:	Male	50	40 to 60
	Female	50	40 to 60
Age:	Children (under 12)	5	2 to 10
	Teens (13 to 17)	15	10 to 30
	Young Adults (18 to 29)	30	15 to 35
	Middle Adults (30 to 59)	45	30 to 50
	Older Adults (over 60)	5	2 to 10
Education:	Elementary	10	5 to 20
	Secondary	30	20 to 35
	College	40	30 to 45
	Graduate	20	15 to 35
Occupation:	Professional	35	25 to 40
	Service or Clerical	15	5 to 20
	Blue-collar	20	5 to 20
	Student	25	15 to 40
	Not in labor force	15	10 to 30
Group size:	Individual	10	5 to 20
	Couple (2 or 3 people)	55	30 to 65
	Small group (4 to 6 people)	25	15 to 45
	Large group (6 or more people)	10	5 to 20

This profile summarizes survey data from six historical and six natural theme National Park Service visitors centers (6), a living history museum (1 and 3), and an exhibit museum (5). The variation in these studies suggest a reasonable range within which the profile of visitor characteristics for a particular center will fall.

When using this table to make projections, it is important to remember that the center's interpretive goals will have a significant effect on this profile. For instance, centers that have special programs in cooperation with local schools will have a younger visitor profile. Centers with a strong cultural character will probably attract older and more highly educated visitors with professional occupations. Centers in primarily recreation areas may attract younger families with less formal education and a greater proportion with blue-collar service and clerical employment.

Knowledge of the probable visitor profile can influence the interpreter's description of the center's performance standards in several ways. For instance, high proportions of pre-teen children suggest a special need for exhibits that can be viewed by persons under 4 feet tall. Both children and teens respond best to active exhibits and learning situations. However, fifth graders and younger children seem to benefit most from guided tours while children in the sixth grade and beyond respond better to self-guiding materials.

Developing an optimum strategy for presenting didactic material can also be guided by considering the visitor profile. Texts must become simpler and more concise as the density of visitors increase and as their level of education and general reading skills decrease.

VISITOR NEEDS

Visitors generally have several reasons for coming to an interpretive center. Table 2 summarizes the main reasons people visited National Park Service visitor centers (6). It is important to put to rest the folklore among center staff that most visitors come into the building to use the restroom facilities. Actually, most visitors are seeking information or want to see the interpretive exhibits and programs. However, substantial numbers are also casual visitors who came simply to look around. A special effort should be made to let these visitors quickly learn enough about the center so that they can choose the most suitable among the available activities.

Table 2. Main Reason for Typically Visiting an Interpretive Center

Main Reason	Typical Percentage	Expected Range
Obtain information	25	5 to 55
Look around	35	15 to 55
View exhibits	20	5 to 45
Use rest rooms	5	1 to 10
See audio-visual program	5	1 to 10
Accompanying someone else	3	1 to 5
Sit and rest	2	1 to 5
Other [a]	5	1 to 10

Notes: [a]For example, to use the telephone, obtain a use permit, or purchase postcards.

Vistors were also asked to evaluate the usefulness of several services commonly found in visitor centers. Heading the list was the provision of information about such things as recreation activities, local regulations, lodging and eating accomodations, and travel directions. Other useful services were literature sales, postal facilities, and a library or resource collection. Attitudes towards the sale of sundries such as candy and photographic supplies were neutral. However, souvenir sales were generally viewed as undesirable.

Specific interpretive goals will obviously influence user's reasons for visiting an interpretive center. Travel information will be requested more frequently in recreation areas and in areas that attract visitors from all over the country. In locations where intense sun or very cold and windy conditions prevail, areas to sit and rest will be in greater demand. A greater interest in exhibits and interpretive programs is expressed in historical or cultural areas. This is particularly true for interpretive themes that can be related to our present lives. For centers with a very specialized theme of limited interest or a more localized audience, a resource collection that incorporates loan and outreach interpretive programs may be the greatest need.

VISITOR BEHAVIOR

Half of the visitors to the National Park Service Centers spent half an hour using the facilities. Approximately 20 percent spent only 15 minutes and 30 percent spent an hour (6). The length of stay tended to be longer in historic theme centers. In the living history (1) and exhibit museums (5) visitors typically spent a couple of hours viewing the exhibits after which they generally began experiencing fatigue. Some common causes of fatigue are object satiation, disorientation, lack of contrast, and physical discomfort such as noise, crowding, and exhaustion (4). If the visitor is anticipated to require more than half an hour to become familar with the interpretive theme, the possibility of fatigue should be considered in the design.

It is also important to remember that the average visitor typically spends less than a minute viewing any particular panel or case exhibit. Rarely does a visitor spend more than 3 or 4 minutes. Within this length of time, the average person should be able to acquire a good general idea of what an interpretive message is about. An opportunity may then be given for additional information or to move on to the next topic.

SUMMARY

In summary, issues to be considered in the development of performance standards for interpretive centers include:

1. definition of the population profile of probable users, recognizing that user populations vary among interpretive centers with respect to age, educational levels, and expectations, and

2. definition of specific (or unique) and general functions to be accomodated in the facility and the expected user relationships with the functions (both staff and visitors), for example the length of engagement with the function, the nature of engagement (vocal, visual, solitary, group active, passive) and the desired outcomes (learning, aesthetic satisfaction, joy, social intraction, etc.).

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VISITOR EXPERIENCES AT AN OUTDOOR HISTORY MUSEUM

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Effective interpretation of an historic environment is believed to lead to an enriched cultural experience for visitors. In this context, it is desirable to know about the relationship between interpretive practices and visitors' experiences in order to monitor and provide feedback for an interpretive program. However, "visitor experience" is a relatively vague concept and has been taken to mean anything from the duration of the visit to the extent of learning facts about a particular exhibit. Thus, this paper reports an attempt to define and study some significant aspects of visitor experiences; the approach taken is directly related to specified interpretive themes at an outdoor "living history" museum.

In a very broad sense, visitor-oriented research (as distinct from a common use of the term "research" meaning historical or archeological research) has most often been undertaken to address two sets of topics: socio-demographics of visitors (age, sex, group composition, etc.) and the success or effectiveness of exhibits (what do people like the most?, did they understand the interpretive themes?, etc.). This project, too, was initiated by an administrator at an outdoor history museum who posed two types of questions: Who are our visitors? and How do they perceive this place? The first set of questions was developed and investigated by a team of researchers from the University of Hartford (1). Beginning at the same time, the second set of questions was pursued by a team of researchers at the University of Massachusetts/Amherst, led by the present author.

The perception or experience of an environment has been shown to be a complex phenomenon, both quantitatively and qualitatively (2,3). For example, perception of environments necessarily involves the perceiver as a participant, requires action, uses several forms of sensory input, and depends on an ambiance comprised of a set of meanings and motivational messages about the social, temporal and physical qualities of an environment (2). Issues raised by museum personnel reflected this complexity and interrelatedness of visitor perceptions, including questions such as: Do visitors comprehend and appreciate the 19th-century landscape? After a visit to this Village, do people see their own town in a different way? What's the value of the "community setting" we've created, and how do people perceive this? and, The majority of our interpretive program focuses on the exhibit buildings -- but what about the space between buildings? Does it reinforce or undermine the interpretive themes? To address these questions and issues, discussions between researchers and museum staff were used to identify several key aspects

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of visitor experience. An initial list of these topics included: (a) visitors' sense of "going back in time," experiencing an historic setting; (b) visitors' sense of community, the interdependence of community life; (c) the extent and types of learning about this setting and this period in American history; and (d) the impact of a visit on visitors' attitudes and interests.

Prior to this approach, "visitor experience" tended to be stereotyped as a continuum from entertainment to education. However, with the advent of these more focused topics, one could begin to construct closer connections between visitor experiences and interpretive policies and practices. Although each of these four topics has been investigated, the first two (sense of time, sense of community) have had fewer problems as researchable questions, and have shown greater potential in evaluating current changes in interpretive practices. Before presenting research results on these two topics, however, a general description of this setting and its visitors is warranted.

AN OVERVIEW OF THE SETTING AND VISITOR EXPERIENCES

Old Sturbridge Village is an outdoor living history museum, portraying a typical New England Village of the 1790-1840 period. It consists of over 40 original buildings (houses, mills, shops, etc.) which were moved to the site from other locations in central New England. The buildings have been positioned to represent a typical town common (houses, stores, meeting house) with early industries and non-agricultural work places in the surrounding countryside (farm, blacksmith, water-powered mills, shoemaker, etc.). Interpreters are costumed and provide informative talks and conversations with visitors in almost all of the buildings; first-person role playing is limited.

Visitors to the Village are a diverse population, including many types of school groups, bus-tour groups, and "independent" visitor groups such as couples, families, and friends. Although interpretive policies and practices intend to reach all visitors, the bulk of the visiting population consists of independent visitor groups, and it is this segment which is emphasized in the present research. These groups tend to be well-educated, white, middle-income to upper middle-income groups of family and friends -- not unlike the general population of visitors to museums and other cultural exhibits. Drawing from a regional and national audience, many visitors have been to one or more outdoor history museums or historic restorations which they believe to be comparable to this Village.

Expecting some combination of educational and recreational experience, most visitors are rather uninformed about the time period and interpretive themes at the time of their arrival. Exposure to an orientation experience varies widely among these independent visitor groups: some whisk through from parking lot to Center Village with only the ticket purchase in between, while others stop to consider a diorama, gallery exhibit, movie and introductory talk. Visitors are

free to choose which buildings they will see and in what sequence they will see them; their visit is guided by a map of the Village, given to them when they purchase their tickets. Most visitors have a moderate interest in the sense of history portrayed by the Village, and spend only a small amount of time in any one exhibit. A minority of visitors have a keen interest in history and in the depth of interpretation. (One might characterize these visitors as the "tourists" and the "purists" respectively, but the value of such a typology is more superficial than real.)

Overall, visitors find the Village to be "very enjoyable" and "extremely enjoyable," and stay for several hours. The most preference is expressed for the more active "demonstration" exhibits such as the crafts, the farm and the mills; visitors report greater interest, stay longer, and get a heightened sense of "going back in time" in these exhibits. The interpreters are a positive and powerful influence on visitor experiences, and the dominant modes of visitor-interpreter interaction (informal lecture, dialogue, and questionning) are appreciated for their informational content. "Extra" interpretive roles such as isolated role playing, special events, interpreters visiting across exhibits, and outdoor activities are especially valued.

Visitors are often eager to talk to interviewers at the end of a visit. They find the interpretation to be stimulating, informative and entertaining; minor annoyances are sometimes mentioned, such as other visitors, and occasional modern facilities (drinking fountains, hidden lights, etc.) but these distractions are usually reported to be insignificant in the overall experience.

VISITORS' SENSE OF TIME

As a re-creation of an early 19th century village, the authenticity of this outdoor history museum is communicated in a variety of ways -- from the overall layout of the Village to the display of artifacts. If a visitor can be immersed in this time period, it is argued that the interpretation of specific activities, artifacts or social events will be more interesting, and will effect a more integrated presentation. Thus, one of the goals of this project was to investigate how well this re-creation is communicated to visitors: to what extent do they get a sense of "going back in time," visiting an historic place? Further, which interpretive practices are effective in enhancing visitor experience in this way?

During the summer of 1979, 100 randomly selected visitors were interviewed as they were leaving the exhibit areas of this museum. Visitors were first asked to give an overall rating of the historic experience, and then to identify anything which <u>helped</u> to get a sense of going back in time, followed by anything which <u>prevented</u> them from going back in time. Interviews lasted for about 5 minutes each; there was no explicit reward nor incentive for participation.

Results indicate that this museum is very effective and having a positive impact on visitors' sense of historic experience. Using a 7-point scale for their ratings (1=extremely strong sense of going back in time, 7=extremely little sense) 73% of the visitors rated the Village as '1' or '2' (mean rating for all visitors = 2.09). The 100 respondents gave a total of 390 answers to the question about what facilitates a sense of going back in time; this average of almost 4 answers per person indicates that there are multiple sources of this experience for most visitors. A total of only 83 answers (an average of 1 per person) were reported as factors which inhibited visitors' sense of history.

To make the most effective use of these data for interpretive policy and decision-making, a profile of interpretive parameters was desired. Therefore, these answers were content analyzed using a conceptual sorting task; several members of the research team participated in this analysis to establish a reliable set of categories (see Table 1). The results indicate seven main sources of an historic experience for the visitors, including the interpreters and their activities, the layout and houses around the Center Village, and perceived contrasts with the present (the categories are listed from most to least salient, as inferred from the frequency of mention by visitors). For policy relevance, these sources can be considered on two levels: the source itself (as a parameter of interpretation), and the characteristics of effective interpretation within each source. For example, it is interesting to note the powerful effect of an

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PARAMETER: Effective characteristics of each parameter

A. THE INTERPRETERS (21.0% of all answers): their costumes, their knowledge, who they are (old people, friendly people).
B. THE WORKING EXHIBITS (19.2%): the farm, the mills, the demonstration of crafts, the labor (working by hand, hard labor),
C. INTERPRETIVE ACTIVITIES (12.6%): the general sense of watching people work, seeing the practice of skills, outdoor activities (people on the streets, riding the horse-drawn carts), seeing interpreters interact.
D. THE VILLAGE SETTING (10.5%): the general ambiance/whole setting, features of the landscape (dirt roads, fences, stone walls, trees), the layout (arrangement of buildings into a community, the village layout).
E. THE CENTER VILLAGE (9.2%): Old houses and buildings, furnishings and furniture, house design (size, fireplace heat, etc.).
F. PERCEIVED QUALITIES OF LIFE (9.0%): functional and structural contrast with the present, the style of living (the old way, tough living).
G. ARTIFACTS IN USE (6.7%): Old implements and utensils, assorted articles in use and on display.

Table 1. Profile of Parameters of Interpretation which Facilitate a Sense of History.

active interpretive staff, as well as the absence of the museum's "formal exhibits" (buildings containing display cases for artifacts), the visitor center and orientation program. These findings present challenges to the museum administrators, and are being used as baseline data for the evaluation of current changes in interpretive programs and practices.

VISITORS' SENSE OF COMMUNITY INTERRELATIONSHIPS

A second major aspect of visitor experience being assessed is the visitors' ability to grasp the "sense of community" portrayed by this Village. It has been observed that many visitors tended to think about exhibits (i.e., the buildings) as somewhat separate entities, and to interact with interpreters on a farily simple level (e.g., nomenclature; not processes, networks, or interrelationships). It was believed that the effectiveness of interpretation could be seen in visitors' ability to synthesize and understand a more superordinate concept (community). It was also believed that this more abstract and less tangible conception of the village would probably have a more lasting and profound effect on visitors than bits of unrelated knowledge.

Paralleling the procedures from the "sense of time" study, another 100 visitors were interviewed about community interrelationships. Preliminary testing of several open-ended questions indicated a need for some structure on this topic, and visitor comments were therefore used to derive four categories of interest: work and economic patterns, family life and kinship ties, community life and social activities, and the different parts of the town (geographically). Each visitor was asked about each of these four categories.

Results from this study indicate that visitors have a much better grasp of some types of interrelationships than others (see Table 2). The greater number of answers and the smaller percentage of unresponsive answers indicate that visitors do generally comprehend some form of economic interdependence from their visit; the "sense of community" through the social life and family life is moderately well perceived; and visitors are least aware of (or least able to articulate) the relationships within or across the different parts of the town.

CONCLUSION

This research is committed to the description and analysis of visitor experiences and visitor behavior at an outdoor history museum in a way that will provide useful feedback for interpretive policy and practice. Systematically-elicited visitor perceptions can be an important indicator of the effectiveness of such practices, and may even be used to suggest changes in exhibit design or programming. Further, when budgets need to be trimmed, or when new investment is

planned, data about visitor experiences and the characteristics of effective interpretation can guide the direction of such decisions.

"What have you seen or heard today about .....?"

A. WORK AND ECONOMIC PATTERNS (198 answers; 8% were not responsive)
The transition between barter and cash economy. The interdependence in trade. People often had more than one job: the potter was a carpenter, the lawyer was also a farmer.

B. COMMUNITY LIFE AND SOCIAL ACTIVITIES (152 answers; 30% unresponsive)
We didn't get a real feeling for the social life. The church was a central meeting place. The men would go to the tavern to socialize, talk crops, get a brew, etc.

C. FAMILY LIFE AND KINSHIP TIES (134 answers; 32% were not responsive)
The closeness of family relationships. We didn't really see anything about family life. They had large families, the more the better.

D. THE DIFFERENT PARTS OF THE TOWN (i.e., the Center Village, the Mill Crossroads, and the outlying Countryside: 131 answers, 45% were not responsive) We didn't really think about it. The mills were close to the water for power. The Center Village was the business district and homes.

Table 2. Representative Comments about Community Interrelationships, as Perceived by Visitors.

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APPLYING RESEARCH METHODS TO INTERPRETIVE PROGRAM PLANNING AND EVALUATION

Robert Callecod and Bobbie Gallup*

Intuitive judgement and experience are valuable, albeit subjective, tools in the decision-making process. However, administrators and program planners are increasingly being asked to prove that programs are needed or "successful" by providing empirical data rather than subjective opinions. This paper describes methods and procedures currently being utilized by the Hennepin County Park Reserve District to obtain empirical data relative to outdoor recreation and interpretive programming needs and user satisfaction.

The presentation will explain a number of research methods which can be used to obtain valid and useful data. These research methods can be utilized by staff members who are not trained researchers and the presentation will emphasize the procedures which must be followed in order to collect reliable information. Examples of research methods used include on-site surveys, mail and telephone surveys, and unobtrusive methods such as time-lapse photography, behavioral mapping, and license and registration data.

Background

The Hennepin County Park Reserve District comprises nearly 25,000 acres of parks and park reserves and serves primarily the western half of the Twin Cities (Minneapolis, St. Paul) metropolitan area. The District has an active interpretive program operating out of four centers which last year served over 100,000 people. A particularly unique feature of the District is that it also has an in-house research section. This paper will discuss the rationale for having an on-going research program and how the research is applied to the day-to-day operation of the interpretive programs specifically, and the Park Reserve District in general.

Need for Research

Much discussion has taken place in the past decade about whether the word "interpreter" should be spelled with an "or" or an

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"er." The primary objective of the "or" proponents seems to be the need to distinguish ourselves as a profession from the foreign language translators. However, if you don't think we're speaking or working with a foreign language - stop someone on the street and ask them to define an interpretive Naturalist.

The same can be said of the way most of us view research. It is a foreign language. Most Naturalists are not researchers by trade, training, or inclination. It simply doesn't interest us. Our business is people; our objective, communications; and our habitat is out there in the field, not in an office with papers, calculators, and computers.

Today, few interpreters could state unequivocably that their funding level is secure and they don't have to be concerned at all about the future of their programming. We're talking about accountability - and we're talking about a foreign language. For those of us whose programs compete for limited tax dollars, we must ensure that we are capable of speaking in terms that city councils, county boards, and state legislators can understand. With shades of Proposition 13 casting the potential of budget cuts for all governmental agencies, the urgency of understanding and speaking the language of the taxpayer, the commissioner, the park administrator, is upon us. That language is demonstratable "proof." This all-encompassing "proof" entails: 1) Justification of existing programs. If you can't show concrete evidence (facts and figures) of who your visitors are, what their interests are, and how satisfied they are with your services, how can you possibly substantiate the need for new services or new programs to meet the needs of new audiences; 2) It means setting measurable goals and objectives for your programs and taking a hard line on evaluation; 3) It means understanding and using research to help you accomplish your goals. Research is not to be feared because it is not familiar to us. Research is a tool that can and should be harnessed to help you gain support for all those marvelous things you're trying to accomplish.

Large corporations have long recognized the importance of devoting a significant proportion of their revenue to market research. The successful corporations rely on research to determine what people want, what they will respond to, and how to make their products so totally irresistable that financial success is ensured.

There are many lessons inherent in all of this. Understanding the market is critical. We are selling a product - our services. Who are we reaching? What do they have in common? Who are we missing with our services? How can we change and improve those services to attract these new audiences? How satisfied are our present users? Are they returning or do our numbers continually reflect new, "one-time only" visitors? How effective is our planning? Do our services reflect trends and patterns as they happen, or are we continually doing the supersonic shuffle with funds to keep up with

population changes, or worse, spending thousands and often millions on services and facilities which are unneeded and will remain underutilized?

We must be cognizant of the fact that we are in a business! If we want to be successful and get ahead, as with any other successful business, we must use all our tools wisely, bearing in mind, "If you don't have time to do it right, where will you find the time to do it over?

Research Methods

Research basically is the systematic collection of data on a particular person, place, or event. For purposes of this paper, we will address research dealing with how well our programs are meeting the interests of the people we are supposed to be serving. Undoubtedly there are as many research methods as there are interpretive programs, and what works well in one situation may not work well in another. It is critical, therefore, for us to understand some of the alternatives which are available, and to know the advantages and/or shortcomings of each.

A major distinction between data gathering techniques is the degree of contact the researcher has with the person(s) being researched. In some instances the researcher may have direct contact with the respondent. Examples of this type of data collection are in-person, face-to-face interviews and telephone surveys. A second type of data collection would involve indirect contact between parties. Examples of these methods include mail-out, mail-back questionnaires and suggestion boxes. The key difference between the direct and indirect methods is that, in the latter, there is an awareness on the part of the respondent that information is being requested and transmitted, but that exchange is done indirectly and without the opportunity for open dialogue. Unobtrusive measures constitute a third category of data collection techniques. Data in this group are collected generally without the knowledge of the people about whom the data are being collected. Examples of these techniques are observational studies using observers or cameras, extracting data from registration records, and studying trace measures, such as wear on floors and trails, fingermarks on display windows, etc.

Most of these techniques are legitimate research methods when used in appropriate situations. What is appropriate depends largely on what data feedback you need, but may also be influenced by the amount of time and money available for conducting the study, personnel to do the study, and possibly even governmental restrictions and controls over research methods.

Regardless of any limitation imposed, however, the results of any study will not be useful if the necessary data are not collected about or from the appropriate people. For example, if we want

people's reaction to a program they have just experienced, an on-site survey of a random sampling of participants may be appropriate. On the other hand, if we are concerned with the long-term residual impact of a program, it will be necessary to go back to the participants at a later date via mail or telephone surveys.

Generally, if we want to know who is attending our programs, and how our facilities are being used, observational studies, registration records, and license plate checks are excellent methods for obtaining data without bothering users. However, if we need to know things like why people are doing what they're doing, or how satisfied they are with our program offerings - then we have to have either direct or indirect contact with the user.

Each research method has its advantages and limitations. The suggestion box, for example, is probably the easiest and least expensive method for obtaining user feedback, but it is also the least effective, since very few people are willing to take the effort to write down unsolicited comments about the program or even to provide meaningful answers to a short survey. The data obtained from this source, therefore, usually represent the feelings of a few very strongly opinionated persons, and seldom accurately represent the feelings of the general user population.

Surveys distributed in various ways to entire populations or randomly selected samples of populations resolve the problem of the suggestion box in that you can be relatively sure that the survey at least is distributed to a target group. In addition, these relatively inexpensive surveys can be structured so that you ask only the questions that need to be asked (thus, hopefully, getting only the answers you need) and the responses can be tabulated easily. The major shortcoming of this survey method is that although the survey may be distributed to the target group, there is no guarantee that they will respond. In fact, experience has shown that the response rate to surveys of this type is quite low - bringing us back to the same concern as we have with the suggestion box respondents: Are the responses received typical of the target populations in general?

The low rate of response problem is generally resolved by using direct contact survey methods. The reliability of responses is also generally better in direct contact situations because the interviewer can go over and clarify questions so the respondent clearly understands the questions. Also, in direct interviews, more complex questions can be asked. The primary disadvantages of these methods is that they are terribly time consuming and quite expensive. Quality interviews require well-trained interviewers, lots of time, and good interviewing conditions.

While mail-out surveys can be filled out by respondents at their convenience, a telephone or on-site survey often requires that

people stop what they are currently doing to answer your questions. This often does not set well with the interviewee, and the willingness of the latter to answer questions is inversely proportional to the number of questions asked.

In summary, the results from any research study are no better than the research methods used to obtain the data. The research methods used will be contingent largely upon the type of information we are looking for and the limitations which may be placed on the conduct of the study. What all this means is there are no cook-book solutions for conducting research studies - but this by no means implies that those studies cannot or should not be done. The following is a discussion of how various research methods have been applied in our field.

Applications for Research

For over five years the Park Reserve District has utilized an in-house research section to analyze outdoor recreation interests and to evaluate how well existing programs are meeting those interests. Many of the research studies involve regular and systematic monitoring of the use of District programs and facilities. Data from those studies tell us when, where, and how many people are coming to our parks, and give us valuable trend data which enables us to quickly detect changes in recreation interests and use patterns. Most of the data for these studies are collected from gatehouse counts; systematic, random observations; and/or by use of time-lapse photography.

Recording of the license plate numbers of park users permits us to determine where park users are coming from. One early study of this type revealed that users of one nature center came from throughout the metropolitan area; while use at another center was quite restricted to the communities within a few mile radius of that center. Further study of park users revealed that the one center was well-known, while many people were not even aware that the other center existed. This obviously implied that there was a need for more public information and publicity.

A study of how interpretive center users found out about our programs revealed to our chagrin that our slick (and expensive) seasonal calendar of nature center programs which was widely distributed was not nearly as effective in generating attendance as was the free, weekly promotional blurb in the outdoor events section of a major local newspaper.

Several studies have been conducted relating to the awareness of and satisfaction with the District's interpretive programs. Perhaps the most startling findings were that the satisfaction levels of those persons using our interpretive facilities was extremely high - but the centers were serving a relatively small group of regular users; a great number of park users were either

unaware that the nature centers existed, or showed no inclination to find out what they had to offer. This led to the conclusion that the public would not, on its own, beat a path to the nature centers. Thus, if the interpretive programs were ever going to compete effectively in the numbers game against other outdoor recreation programs, then the Naturalists would have to leave their sacred domain and develop an outreach program which would entice people into the centers.

Another observational study conducted by the District dealt with determining the relative effectiveness of a number of different types of displays in a nature center. The results merely provided us with empirical data for what we already knew - people prefer hands-on, action displays rather than complex, informational exhibits which just sit there. We knew it, but now we have proof!

The research section is always available to work with the interpretive staff to develop survey methodologies for evaluating programs. An on-going objective of this research program is to determine not which programs are simply entertaining, but, rather, which programs are satisfying to the user/consumer and impart some bit of environmental education and a better understanding of what the Park Reserve District is all about.

Evaluation of user satisfaction levels can and should be incorporated into all of our programming in a consistent way. Valid, reproducible evidence of user levels, patterns, and satisfaction can be your ticket to getting that badly needed new staff person, or the development of a new trail loop, or whatever pet project or idea you're trying to sell. But most of all, it can be the key to justification of the validity of your interpretive program.

Becoming truly professional will necessitate comprehensive documentation of where we've been, what we have accomplished, what we are doing presently, and of our goals and objectives for the future. Are they measurable, realistic? How will we know when we have accomplished them? Systematic evaluation can provide these answers.

THE ROLE OF INTERPRETATION IN DETERMINING RECREATIONAL CARRYING CAPACITIES

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INTRODUCTION

Interpretation is concerned with aiding people in perceiving and experiencing an environmental resource in a satisfying and rewarding manner. To accomplish this task, it is necessary for interpreters to create environmental encounters where visitor expectations can be met, both in the appreciative and cognitive context. While many components are involved in producing a satisfying environmental encounter, two components necessarily involved are visitor expectations concerning the biological-physical resource itself, and the social conditions under which the encounter occurs. Both of these components concern the concept of carrying capacity.

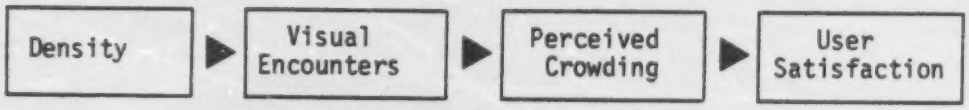
Recreational carrying capacity has been defined as "the character of use that can be supported over a specified time by an area developed at a certain level without causing excessive damage to either the physical-biological environment or the experience for the visitor" (4). It is important to realize that the recreational carrying capacity concept does not specify an absolute, definitive use limit or value, but rather a character of use. Thus, the acceptable character of use for a given area is a multidimensional and value concept capable of manipulation by the manager or interpreter of an area. For example, the interpreter often can use information to influence the use behavior of visitors to a site, or to influence the expectations of visitors, so that the character of use for an area is acceptable and leads to maximizing on-site visitor satisfaction.

EXPECTATIONS AND ACCEPTABLE CHARACTER OF USE

Basic models for carrying capacity have usually assumed an indirect relationship between use densities-types of use and the degree of degradation to the resource or quality of visitor experience. That is, as use levels become too great or types of use unacceptable, both the resource base and visitor experience will deteriorate to the state that such

visitor use can no longer be tolerated by management. Limits are set, often on number of users in an area, in order to protect the resource and insure visitor satisfaction.

More recent studies in the area of sociological carrying capacity have expanded the basic "density dependent" model to include a "satisfaction" model for understanding carrying capacity (1, 2, 5). The satisfaction model can be represented as follows:



The model proposes that user satisfaction with an on-site encounter is not only related to use density, but depends on individual and situation-specific perceptions of visitor contacts and crowding. Whether an area appears crowded, user behavior inappropriate or other characters of use unacceptable, will depend on individual and situation-specific perception, which in turn are quite dependent on user expectations. User expectations directly influence user perceptions of how appropriate various characters of use are in providing satisfying environmental encounters (6). User satisfaction with an on-site encounter, which interpretation has a role in maximizing, is determined by the differences between the perceived outcomes an individual experiences and the outcomes expected or thought to be received. It is with the formulation of realistic expectations concerning on-site encounters that interpretation has a major role to play. If information can be presented to visitors so that realistic expectations are formulated, than perceived on-site outcomes are much more likely to meet expected outcomes, thus resulting in satisfying experiences for visitors.

INFORMATIONAL COMPONENT OF REALISTIC EXPECTATIONS

Information offered to visitor, through interpretive means, serves two important functions in terms of carrying capacity determination: (1) as previously stated, it aids visitors in forming realistic expectations concerning an environmental encounter, thus increasing the prospects of a satisfying individual experience, and (2) it often can be used to formulate visitor expectations which allow for more density dependent characters of use, thus providing

recreational opportunities for a greater number of individuals. For example, information can cause visitor expectations to be more tolerant of higher use levels or types of use in a wilderness area.

Information is the basis of expectation formation. Expectations can be highly individualistic and situation-specific, based on one's past experiences and information processed. Amount and kind of past experience, information exposure, degree of communication with others, and personality characteristics all influence the formation of expectations (3). Individuals can have different expectations for the same environmental encounter, and an individual's expectations regarding an encounter can change through time, often due to additional information processed. Thus, interpretation, as a major means of environmental communication, has a definite role to play in visitor formulation of realistic expectations, and carrying capacity determination.

AN EXAMPLE OF INTERPRETATION'S ROLE

Relief Model Redistributes Smoky Mountain Backcountry Campers

A type of recreation where carrying capacity has been a major concern is wilderness. Limits on degradation to both the quality of the resource and the visitor's experience are quite sensitive to visitor use. One of the problems is that wilderness users often tend to congregate in a few popular zones of most wilderness areas, frequently leaving other zones essentially unused. Yet, many people participate in wilderness camping with the expectation of finding solitude. If visitors planning trips only knew where other campers were distributed within a wilderness area, they could select non-congested use zones and thereby increase the chances of meeting their solitude expectations. If all zones were receiving moderate to heavy use, individuals could then alter their expectations toward finding solitude, thereby making expectations more realistic to the situation they will likely encounter.

To provide use distribution information of this nature to backcountry campers in Great Smoky Mountains National Park, two relief models, measuring 5 feet high by 9½ feet long, are provided in which each backcountry campsite is designated by a small (⅛ inch) light. The lights can be colored various hues by use of opaque colored filters to indicate the use situation of sites. The coding system used is:

Green--site available tonight and tomorrow night
Yellow--site available tonight but full tomorrow night
Red--site full tonight but available tomorrow night
Blue--site full both nights
Black--site closed for management reasons

The models are displayed on the wall of backcountry permit offices, readily available to campers planning trips. As campers obtain permits for the various backcountry sites, the lights are updated. By observing the information displayed on the models, visitors can determine where their expectations might best be met, or if indeed, their expectations are realistic. In addition, the relief model is available as an interpretive media for orienting hikers, and as previous research has shown, relief models are one of the most visitor preferred means of interpretation (7).

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VISUAL ENVIRONMENTAL PREFERENCE ASSESSMENT AS A TOOL FOR DEVELOPING CULTURAL AND NATURAL INTERPRETIVE PROGRAMS

Thomas R. Hudspeth*

Use of visual environmental preference assesament as a research methodology can help to provide a more scientific understanding of Tilden's interpretive principles and of the field of environmental interpretation in general. The evolution of environmental interpretation from more traditional natural and cultural history interpretation has been accompanied by attempts to provide more scientific understanding of the field, which began more as an art form, as evidenced by Tilden (21). To provide assistance in such efforts, the AIN Research Committee has suggested topics for interpretive research. Visual environmental preference assessment relates directly to three of the committee's suggestions:

1. Test of applicability of principles from other fields to interpretation
2. Characteristics of selected publics
   A. Psycho-social
      1. Fitting interpretation to various levels of knowledge and experience
3. Perceptual differences between resource administrators, interpretors, and the public

VISUAL ENVIRONMENTAL PREFERENCE ASSESSMENT

A significant part of the increased environmental awareness in the past decade has been manifested as a greater appreciation of aesthetics, the visual landscape, and scenic resources. So important is the issue of aesthetics, in fact, that it has begun to be incorporated into legislation and to play a role in various other public contexts. Environmental designers, planners, managers, and decision-makers responsible for implementing federal and state laws and carrying out decisions of the courts dealing with aesthetics are often at a loss as to where to begin. However, in recent years a whole field of endeavor called visual resource management has arisen to assist them by providing technology to address challenges in landscape planning. The assessment systems and technology employed in this field are derived from a variety of academic and professional disciplines (e.g., psychology, architecture, landscape architecture, geography, economics, engineering, natural sciences, natural resource management, and interdisciplinary approaches), and make use of descriptive, computerized and quantitative, and psychometric and social science approaches.

There are two major types of systems employed in visual resource management:

1. Expert or professional judgment: systems using professional

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planning and design norms to evaluate landscape qualities. In these approaches, variables are selected arbitrarily, and therefore the scoring values are arbitrary

2. Public preference or empirical: systems evaluating peoples' preferences toward landscape characteristics.

For either type, numbers are assigned to each factor or variable, and then scores are determined. Used to elicit responses are: actual on-site visitation, black and white photographs, color slides, videotapes, line drawings, art pictures, and tachistoscopic projections.

A specific type of empirical assessment system is visual environmental preference assessment, which asks participants to rate how much they like what black and white photographs show, using a Likert scale. The information-processing approach of S. Kaplan and R. Kaplan (15) serves as the theoretical model on which this methodology is based.

Information-Processing Approach

The information-processing approach considers the environment in terms of information qualities that make human functioning possible. It provides a basic understanding of what people are like, what their needs are, and how they know and experience the environment:

1. Humans are concerned with perceiving and knowing.
2. Humans care about making sense and being involved.

Humans are profoundly influenced by the conditions of their evolutionary history. In the uncertain, dangerous, vast, and complex environments in which humans evolved, both the ability to build mental models which provided simplified yet workable conceptions of the environment and the desire for clarity through making sense and being involved were essential for survival. Cognitive maps of the environment---connected mental representations of recurring patterns humans experienced which were clear and definite even when all the available information was partial and incomplete---permitted anticipation, prediction, evaluation, and planning, all of which were necessary to deal with large amounts of information quickly. Uncertainty is still with us, and these abilities are still essential for human functioning.

3. Humans prefer environments where they can use their cognitive maps and extend them, and build new maps.

Environments which have fascination value---for which attention comes easily (involuntarily), thus leading to cognitive clarity---due to their contents or processes or a combination of the two are likely to be preferred. Contents relate to coping with the environment and include: wild animals, snakes, wolves, bears, young animals, fellow humans, green things, water, fires, caves, weather, shelters, tools, food, etc. Processes relate to coping with uncertainty, through making sense (by hanging together and being comprehendible) and involving (through richness or variety and mystery).

4. Deviations from preferred environments produce stress. Such stress can cause people to become unpleasant, irritable, aggressive, and destructive; and to withdraw, become uninvolved, and drop out, resulting in a break-down in community. When humans find themselves in non-preferred

environments, they seek to manage such stress by developing coping strategies which either modify conditions or adapt to them. Strategies to keep the information generated by the environment manageable include: (a) choosing to gravitate toward preferred environments, (b) managing such environments so as to enhance their preference values, (c) imposing patterns on environment and experience through shared cultural interpretations, and (d) participating, or taking an active role in what happens in the environment.

The basic understanding of human nature and human requirements provided by this theoretical approach can be used by a wide variety of persons working to solve problems at the human/environment interface or seeking to create more humane environments to live, work, and play in, including environmental interpretors. It helps them to recognize that humans:

1. can be difficult and potentially very dangerous animals
2. are dynamic organisms, actively striving to cope with their environment
3. are highly capable of problem-solving, cooperation, and creativity when effectively informed
4. want to be involved, to have a piece of the action, to influence the course of events; they do not want to have things done to them or for them, though.

Such recognitions, in turn, can be used by these persons in determining where and how they can intervene to be most effective.

APPLICATION OF PRINCIPLES FROM OTHER FIELDS TO INTERPRETATION

Research findings and insights from a variety of related academic fields (e.g., communications, journalism, education, environmental psychology, design, technology transfer and diffusion of innovation, and marketing) can be applied to interpretation.

Visual resource management, like environmental interpretation an eclectic and interdisciplinary field, emerged from the synthesis of research efforts by psychologists, designers, geographers, economists, engineers, natural scientists, natural resource managers, etc., and continues to grow and expand as it takes into consideration recent findings in these and other fields. Interpretors concerned with not re-inventing the wheel can take advantage of such efforts and findings in applying visual resource management strategies such as visual environmental preference assessment to their own field.

FITTING INTERPRETATION TO THE AUDIENCE

"Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile" (21).

"To be effective, a communicator must employ words, symbols, analogies, situations, and stereotypes that the receiver understands" (5).

"The message must be stated in terms of the interests of the audience" (5).

"To communicate effectively with people or to transmit knowledge to them requires that each audience be understood" (6).

Conducting interpretive activities involves communication, and effective communication requires knowledge of the audience. Improvements in interpretation over the past several years have resulted from two thrusts:

1. Greater attention has been paid to hiring interpretive staff with proven communications abilities and to improving the communications skills of those already employed through in-service training programs. Compilations of communications and educational principles applicable to interpretation (2,5) and interpretive training packages (13) have greatly facilitated such efforts.
2. Interpretors have used observations, interviews, photographs, questionnaires, and other techniques to gain better understanding of audiences/visitors/clients/participants, their perceptions, their interests, their motivations, their expectations, and their socio-psychological characteristics.

Communication is "the process that allows us to form the images in our head that map our environments and guide our behavior" (19). Only when the interpretor learns to perceive the world through the eyes of the visitors will s/he truly be able to communicate with them. That is, interpretors must know what the images inside visitors' heads are like, what their cognitive maps are like, if they hope to relate to something within their personalities or experience, to reveal to them the essence or soul or spiritual whole of a subject, to provoke their attention and curiosity, and to provide them with experiences they can tuck away in their memories for future reference.

Visual environmental preference assessment offers a neat tool for getting at visitors' perceptions and perferences and, in the process, relates to something within their experiences by involving them in sharing their visual images. It can provide useful information to interpretors for all aspects of the interpretive planning process: determining the objectives of their overall interpretive program, deciding which sites and subject matter to be interpreted and when (often we burden visitors with lots of information on-site that is not really required or that, at least, should have been provided to them before they arrived on-site), deciding on media to use and services to provide, determining how they can use interpretation as a management tool (as in reducing vandalism, etc.), and evaluating the effectiveness of their programs.

PERCEPTUAL DIFFERENCES BETWEEN INTERPRETORS AND VISITORS

As Nyberg (18) points out, interpretors are often guilty of mind manipulation. They develop the objectives for their interpretive programs based on their own expectations rather than building on

the perceptions of the visitors. They pick topics for interpretive events they intuitively feel their audiences want, without ever checking to see if their intuitions coincide with visitor interests. And they evaluate interpretors' responses rather than audiences' in far too many cases. Interpretors claim to speak reality and all else is illusion; in assuming such a posture, interpretors take from their clients their ability to define reality, and the interpretive events too often preclude a meaningful experience rather than facilitate it.

The training and experience of interpretors cause them to have different perceptions than the public. In some cases, the discrepancies are minor, whereas in others they are major. In designing interpretive facilities, services, or programs, interpretors acknowledge that "no planning for visitor use or accomodations should proceed without a basic understanding of who would use the service/facility" (14). Yet, "too often a plan is merely a reflection of the individual values of the person who is developing the plan. A great failing in many past planning efforts was the notion that the planner knew what was best....To be successful the planner must know the publics affected by the plan.... The only person who knows what is best for an individual is that particular individual, and it is the responsibility of the planner to become informed and maintain objectivity in using the planning process to reflect other peoples' values" (1).

Using visual environmental preference assessment, interpretors might find out that they have been interpreting all along what they thought were the key features for their area, but in fact are not. For example, few interpretors would be likely to deal with the subject of a boardwalk on an interpretive tour of a bog, yet it is of higher perference value than the open bog mat (9,10). Recognizing that interpretive services can sometimes improve peoples' preferences, such as for types of landscapes (7,9,10), they could design interpretive programs that deal with topics which people do not prefer but which they feel are nonetheless important from a management perspective. And if cut-backs in supplies of gasoline limit recreational travel, more local recreationists and fewer tourists from more distant places will be engaging in interpretive activities. Knowledge that preferences of locals who are more familiar with an area differ from those of tourists could be used by interpretors to design services which relate to those locals' cognitive maps and preferences.... and the same could be done with respect to different age groups, different seasons, different educational levels, etc.

In short, it is important to find out what the visitors' perceptions are through the use of visual environmental preference assessment rather than just interpretors' before embarking on any aspect of the interpretive planning process.

ROLE OF INTERPRETOR

Recent studies (3,4,8,9,10,11,12,16,17,20,22,23) dealing with perception, cognition, and visitor preferences indicate that interpretors recognize the potential of visual resource management strategies for

environmental interpretation. However, these studies fail to challenge the traditional role of interpretor as expert. Accepting the information-processing approach as a theoretical model necessitates viewing the role of the interpretor in a different light---as a facilitator rather than expert. Interpretors should:

1. seek to understand the models or cognitive maps of those with whom they work by asking them what's on their minds, what their preferences are, and by giving them an opportunity to have an input
2. share their expertise by informing their clients, providing them with conceptions of what the possibilities or choices open to them are, and offering directions or guidelines for them
3. strive to achieve a shared view of the problems and alternative solutions
4. help them implement solutions---but not do it for them, and
5. provide support systems, and help them feel wanted, needed, and challenged.

SUMMARY

To some, the gradual emergence of environmental interpretation from more traditional natural and cultural history interpretation has involved merely a broadening or expansion of sites deemed appropriate for communication of natural and cultural features and environmental processes to visitors engaged in on-site recreational experiences through first-hand exposure to subject matter or objects. While natural and cultural history interpretation focused on national, state, and local parks, forests, and historic sites, environmental interpretation deals with museums, zoos, arboreta, theme parks, tourist sites, farms, industrial complexes, urban centers, and transportation corridors, as well as parks, forests, and historic sites.

But to others, the evolution of environmental interpretation from natural and cultural history interpretation has been characterized by attempts to move from the art of communicating with visitors to the science of communicating with visitors through the application of research findings, including findings from related fields. Insights gained from the broad area of visual resource management which have proven useful to environmental designers, planners, managers, and decision-makers also offer valuable contributions to environmental interpretors. A particular type of research methodology employed in visual resource management---visual environmental preference assessment---is especially promising for providing a better understanding of all aspects of the interpretive planning process. And the information-processing approach which provides the theoretical base for visual environmental preference assessment offers explanations for why communications principles and Tilden's interpretive principles---which are basically communications principles---work.

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INTERPRETATION FOR URBAN AUDIENCES[1]

Janet M. Fritschen and Daniel J. Stynes[2]

There has been much discussion lately about interpretation for special populations (5). Guidelines have been established by the National Park Service for dealing with children, senior citizens, handicapped, and minority populations (6). The group most neglected by interpretors is the residents of our large cities.

As the first of his six principles of interpretation, Tilden (9:9) states that:

> Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.

Urban populations are more familiar with and more knowledgeable about the man-made environment than the natural (2, 3, 4). Because they live in an environment with relatively few natural elements, it is often felt that interpretation for urban residents needs to be specifically designed for them.

Two methods of relating interpretation to urban audiences have been proposed. The first explains the natural environment by means of parallels with the more familiar urban environment. Examples of this "analogy" approach would be the comparison of habitats in a park to neighborhoods in a city (4) or the comparison of a plant and the insects on it to an apartment building and its residents (8). The second method involves the interpretation of the urban environment itself, including both the natural and man-made elements of a city (10).

While discussion of the merits of these two methods has blossomed and programs using them have been implemented, no research has been directed toward measuring their effectiveness. This paper will summarize the findings of a formal experimental test of what will be termed "analogy" and "urban" approaches to interpretation for urban audiences. More detailed discussions of procedures and results are reported in Fritschen (1).

STUDY DESIGN

A series of experimental slide-tape programs were developed and

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presented at Belle Isle Urban Nature Center in Detroit, Michigan during August and September, 1979. The nature center is located on an island in the Detroit river, three miles from downtown Detroit. A total of 562 visitors to the center viewed and evaluated the experimental programs. About half of the subjects were residents of Detroit and another third came from the surrounding suburbs. Approximately one-third were non-white; most of these from the city of Detroit.

Two "traditional" slide-tape programs were developed interpreting (1) the plants and (2) the animals of Belle Isle without reference to the urban or built environment. These traditional programs served as controls in the experimental design. Variations of each were produced using the analogy and urban approaches, resulting in six distinct 10-minute programs. Different combinations of the six programs produced four experimental treatments:

1. Analogy plant / Traditional animal
2. Analogy animal / Traditional plant
3. Urban plant / Traditional animal
4. Urban animal / Traditional plant

Treatments were randomly assigned to groups of subjects and the showing order of the two programs was alternated to control for possible order effects. A self-administered questionnaire was used to collect background information about the subjects, measure preferences for types of interpretive programs, and obtain evaluations of the two programs based upon two independent criteria, enjoyment and learning. A simple evaluation scale was used for the evaluations: 1=poor, 2=fair, 3=average, 4=good, 5=very good, and 6=excellent.

RESULTS

A Priori Program Preferences

Before the experimental programs were shown, the subjects were given four pairs of possible programs and requested to select those which they would prefer to attend. They selected an animal theme over a plant theme by almost six to one. A program about nature in the country was preferred over nature in the city by 3:1, and nature in a far away place over nature in their neighborhood by 3:2. In a choice between an indoor slide program and outdoor nature walk, 72% selected the nature walk.

Evaluation of Experimental Programs

The experimental programs were evaluated on enjoyment and learning. There, also, a preference was found for the animal theme. Ratings on enjoyment for the animal theme were consistently above ratings for the plant theme across all treatments. (Table 1). For the sample as a whole, no significant differences were found between analogy,

traditional, and urban treatments with respect to enjoyment.

Subjects' evaluation of enjoyment provided clearer results than their perceptions of how much they learned from the programs. One interesting result on the learning dimension is the high rating of the analogy-plant program (Table 2). We speculate that the analogy approach will work best in explaining relatively unfamiliar concepts and relationships. Evaluation will clearly depend upon the quality of the analogies, however. When the audience is more familiar with the subject matter, analogies may seem superficial or confusing.

Table 1: Mean Program Enjoyment Ratings

		Treatment			
Theme	Total	Analogy	Traditional	Urban	Traditional
Both		4.8	4.8	4.7	4.7
Plant	4.6	4.7	4.6	4.5	4.5
Animal	4.9	4.9	5.0	4.9	4.9

Table 2: Mean Program Learning Ratings

		Treatment			
Theme	Total	Analogy	Traditional	Urban	Traditional
Both		4.7	4.7	4.6	4.7
Plant	4.6	4.9	4.3	4.5	4.6
Animal	4.7	4.6	4.9	4.7	4.8

Preferences of Population Subgroups

Comparing program preferences for various population subgroups is confounded by what is termed the "anchoring problem." Ratings of the experimental programs varied considerably by age, education, and prior experience. Consistency in the patterns across all treatments and themes leads us to hypothesize that different groups are rating the programs based upon different individual rating scales. For example, the age group 18-24 consistently assigned the lowest ratings, while young children and subjects over 60 gave the highest scores. Program ratings also decreased with education and increased with prior nature center experience. Residence, sex, and race had no effect.

When these anchoring problems were controlled for, only one variable showed a significant effect on evaluations across program treatments - race. For both learning and enjoyment, whites preferred the analogy approach over the urban approach, while non-whites rated the urban programs more highly. Other results included a greater preference for plant themes among women and a tendency among older subjects to prefer the traditional programs.

Predicting Program Preferences

Discriminant analysis (7) was used in an attempt to predict preferences of visitors for the experimental programs. Eight characteristics were used in this analysis: program theme (plant or animal) and treatment (urban or analogy); and the subject's race, sex, age, education, residence, and prior nature experience. For enjoyment a linear model was able to predict program preference correctly in 82% of the cases. Program theme and treatment were the most important predictors.

Predicting perceived knowledge gain (learning) proved more difficult. In only 65% of the cases was the preferred program correctly predicted. This is not a substantial improvement over an expected 50% accuracy in selecting between the two programs by chance. Knowledge gain depends upon prior knowledge and evaluating retention requires more complex and time consuming designs, which are often difficult to implement in an interpretation setting.

CONCLUSION

Experiments with urban audiences in Detroit uncovered differences in preferences for program contents. There was a clear preference for programs about animals over programs about plants. This suggests that inclusion of material about fauna in interpretation programs may help spark interest and increase enjoyment.

Differences in preferences were also found among racial groups. Whites revealed a preference for the use of analogies in conveying information about the natural environment. Blacks appear to relate more closely to the urban environment itself, preferring programs that interpret nature within the more familiar urban environment.

There are undoubtably complex interaction effects between the program content, program approach, visitor characteristics, and the media employed. Thus, it is difficult to generalize from the results of only a few research experiments. Evaluating enjoyment of interpretation programs will be easier than evaluating learning or long term behavioral changes resulting from interpretation.

In designing programs that relate to urban audiences it is important to recognize both the common ties to the city of urban residents as well as their diversity. There is a need for a corresponding diversity of interpretation programs in urban areas, tailored to different age, ethnic, and socio-economic groups. Interpretors require guidelines to help them relate programs to a given audience. Development of general guidelines will require a great deal more experimentation and evaluation using a variety of non-traditional approaches to urban interpretation.

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THE SIGNIFICANCE OF THE FAMILY AS A UNIT OF ANALYSIS IN INTERPRETIVE RESEARCH

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INTRODUCTION

The intent of this paper is to demonstrate the importance of the family as a unit of analysis in interpretive research by: (1) showing the pervasiveness of the family as the predominant social group potentially attending conducted interpretive activities; and (b) suggesting several avenues for future interpretive research focusing on families.

Since attending interpretive events is largely a leisure activity, it is noteworthy that many researchers have called for family-centered leisure behavior studies. From these, several rationales have emerged, the most recurrent being: (a) the family is the single most important context of leisure socialization (24,37); (b) there is an apparent relationship between family leisure participation and long term cohesion and marital success (19,24,37,40,45,47); and (c) there is a relationship between many types of childhood leisure participation and leisure behavior exhibited as an adult (5,7,21,25,26,27,44,48). Thus leisure may serve important family functions not typically provided for elsewhere, and the centrality of the family as a leisure socialization unit indicates that the family is an important variable for explaining human leisure behavior. The remainder of this paper focuses on the importance of this logic to interpretive research.

THE FAMILY IS A PREVALENT LEISURE GROUP

Family-related groups (e.g., families or family plus friends) are the predominant type of social group found in a variety of leisure settings. As Table 1 illustrates, families clearly dominate the scene in a wide variety of leisure settings. Although other group types frequent these recreation areas, none appear to rival family-related units in terms of percent representation. It can be seen that families are an extremely important potential audience in places offering interpretation.

Table 1. Studies Showing the Predominance of Family-related Groups in Leisure Settings[a]

Type of Setting	References	Percent Family[b]
Developed campgrounds	4,8,20,39	80+
	28	70+
	30,31[d]	C
Zoos	9	C
National parks or other parks	17,35	70+
	10[d]	55+
Dispersed areas	6,23	45+
Developed beaches, lakes or rivers	17,18	75+
Playgrounds, neighborhoods	17	55+
Dispersed snowmobiling areas	33	70+
	23	60+

NOTES:

[a]A family-related group is composed of family only or family plus friends.

[b]Figures denote the proportion of sample comprised of family-related groups.

[c]Precise figures unavailable. Reported that "most" were family-related groups.

[d]Families only. Does not include family plus friends.

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It was earlier suggested that leisure serves unique functions for the family. Machlis (31) and Orthner (36) noted that leisure places may be viewed by families as settings in which members can be more open and intimate in ways not possible elsewhere. Similarly, Cheek (10) argued that parks are unique settings in which humans engage in predominantly non-instrumental behavior with a group of selected significant others for the implicit purpose of strengthening intragroup bonds and preserving or enhancing group cohesiveness. Others (11, 18, 29) suggest that in choosing leisure activities, groups primarily seek out opportunities for desired social interaction. This line of reasoning is consistent with Kelly's findings that building and enjoying intrafamily relations was a major reason behind family leisure choices (24), and those by Cheek in which virtually all the groups he studies remained together for their entire visit (9,10).

Whether interpretive activities enhance or otherwise contribute to these processes represents an exciting area for future research. For present purposes it is important to note that since families constitute an important (if not the most important) audience segment, and that leisure appears to fulfill some important family needs, research on the family would seem to be extremely important in several areas of interpretation. Some of these are discussed in the next section as they relate to attendance at interpretive activities.

ISSUES FOR FAMILY-CENTERED INTERPRETIVE RESEARCH: ATTENDANCE

Attendance at interpretive events has recently received considerable research attention (34, 38, 43, 46). It provides a useful example here since, to date, no known studies have focused on group behavior. Consequently, little is known about the attendance patterns of families despite their prevalence as a participating leisure unit.

Characteristics of Attenders

Cognizance of the characteristics of families attending interpretive activities could be useful in many ways. Interpreters would, of course, be able to interact more effectively with their audiences; program planners would have increased insights into the kinds of activities likely to be most successful and the levels at which they should be aimed; and audience expectations might be more apparent, as might the types of program publicity most likely to result in increased attendance.

Some evidence exists that the more familiar recreationists are with a leisure place the less likely they are to attend interpretive activities (34). That this is also true for families has been suggested by Machlis (31), but has yet to be empirically confirmed. Machlis also hypothesized that whereas partial families (a single parent with one or more children) would likely be heavy attenders, extended families (e.g., reunions) would attend only rarely.

Other family variables yet to be studied include stage of family life cycle, educational backgrounds of parents, previous attendance patterns, the nature of previous experiences with interpretation, and others. Cheek and Burch have documented the pervasiveness of family life cycle as an important

explanatory variable in family leisure behavior studies (11). Kelly, in particular, reported that no relationships exist between family leisure motivations and sex, age, SES or any other independent variable not itself highly correlated with stage of family life cycle (24).

It is plausible that attending interpretive functions with one's family as a child could lead to continued attendance as an adult. Several writers have reported a carryover of many childhood leisure activities to adulthood (5, 7, 21, 25, 26, 27, 44, 48) but nothing as specific as attending interpretive events has been monitored. The implications of such a study for publicity specialists, children's interpreters, and interpretive planners could have far reaching proportions.

Effects of Interpretation on Recreation Experiences

One of interpretation's most important, yet least understood functions may be its contribution to the larger recreation experience (32). It is possible that visitor satisfaction is partially enhanced by attending interpretive activities (2). Similarly, families who attend such events may have more, equally or less satisfying experiences than those who do not. In any of these cases, the implications for recreation management are important. If varying degrees of satisfaction can be traced to attendance at particular activity types, different family types, families with different motivations, or a host of other descriptive variables (such as those discussed in the preceding section), significant advances will have been made toward systematic interpretive planning. A lucid discussion of alternative measures of satisfaction is available in (15).

Publicizing Interpretation

As Cheek noted in two separate studies (9, 10), nearly all park-going social groups remain together for their entire visit. Thus, families can be expected to behave as cohesive units rather than as loose collectivities. Since attending an interpretive event will involve a family decision, much can be learned about publicizing interpretation by studying family decision making processes.

For instance, consumer behaviorists have identified distinct roles played by various family members during the purchase decision process. These include the problem identifier, the information searcher, and the choice maker (14, 16, 42). The delineation of these roles varies with the type of product being decided upon and other variables such as stage of family cycle (16).

Similarly, when the choice is imminent, a "gatekeeper" role may emerge wherein one of the members (usually a parent) makes a decision either on the basis of what he or she feels is best for the family (or selected members), or on the basis of what he or she feels they want (1, 12). This phenomenon suggests that some members serve as direct or indirect "influencers" and that these in turn determine the nature of the benefits sought through the decision (16). As Engle, et al. explained, the implications of these roles for advertising are extremely important:

> Communication strategies must not only be targeted to different members of the family but probably must stress different product attributes. . . Research must clearly delineate the importance of each spouse before marketing strategies are designed and implemented. (16:157)

Thus, it is important to identify the gatekeeper, influencers and intended beneficiaries of family decisions (to attend or not attend interpretive activities) before publicity is designed.

Unlike most other "products" for which the gatekeeper (decision maker) role varies with the nature of the product (3, 13, 16, 42), family leisure decisions do not appear to be made by any particular member (3, 13, 14, 22, 41). In addition Cheek and Burch reported a "remarkable openness to suggestibility" among group members when it came to a decision to visit a park (11:163). Similarly, in a study of zoo-goers, Cheek reported equal influence within groups of significant others (9). If research can identify decision makers, influencers, beneficiaries and the criteria on which family leisure time-use decisions are made, information programs of all kinds (including safety messages, visitor information, etc.) as well as interpretive program publicity will be greatly enhanced.

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PARTICIPATION AND NONPARTICIPATION IN INTERPRETIVE EVENTS[1]

by
Gary W. Mullins*

INTRODUCTION

Substantial funds are allocated for interpretive services by numerous organizations, yet our scientific understanding of the phenomenon is quite limited. To advance what is known about interpretation, this study was undertaken. Participants and nonparticipants in interpretive events sponsored by the National Park Service (U. S.) were studied, along with those people who have not visited a National Park. Research questions addressed: (1) the difference between park visitors and nonpark visitors, (2) the difference between participants and nonparticipants in interpretive events, (3) the existence of subgroups of interpretive activities and (4) the relationship between measures of participation in interpretive activities and certain characteristics of people and recreation places. These questions were intended to describe and explain certain identifiable characteristics associated with park going and interpretation.

Findings showed that (1) park visitors and nonpark visitors are differentiated by certain social aggregate (demographic and economic) variables; (2) social aggregate variables tend not to differentiate between participants and nonparticipants in interpretive activities; certain variables related to the social group and place do differentiate between participants and nonparticipants, (3) two empirically derived subgroups of interpretive activities--personal and nonpersonal--were identified and (4) two measures of participation in interpretive activities--extensity and intensity--were found to be related differently to certain characteristics of people and recreation places.

METHODOLOGY

Interpretation is viewed as an organizationally sponsored recreational and environmental learning activity/process which occurs at leisure settings. The emphasis is that interpretation is a relatively unique activity/process that overlaps both recreation and education. To study this activity/process, a behaviorist approach was utilized which looked at characteristics of people, places and interpretive activities.

Information was obtained from three data sets: North Pacific Border Study (4), Piedmont Study (7) and Southern Rocky Mountain

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Study (6). These three data sets were obtained in their respective geographical regions (2). The North Pacific Border Study and Piedmont Study consisted of a probability sample of 1,500 households each. Field (3) has discussed the telephone interview techniques employed in these two studies. The Southern Rocky Mountain Study included a sample of 1,500 groups; responses were collected via mail questionnaires distributed on site in National Park Service areas in that region of the United States. Fifty-two per cent of the 1,500 systematically selected groups of park visitors in the Southern Rocky Mountain Study returned the questionnaire.

Each data set was designed to overlap or repeat certain measures taken in an earlier study to provide a vehicle for comparison. Participation was measured in terms of extensity--the total percentage of visitors who engage in an interpretive activity--and intensity--the number of times a visitor participated in any one interpretive activity at a park (1). Social aggregate (demographic, socioeconomic) variables were used to measure attributes of individuals--age, sex, income, etc. Social group variables were used to measure attributes of social groups who visited a park--number in group, group type, etc. Place variables were park type, number of areas visited, etc. These variables were ones which had shown promise in previous literature.

FINDINGS

Four major findings which were enumerated in the introduction were the results of this study. First, park visitors and nonpark visitors were differentiated in terms of social aggregate characteristics. Park visitors tended to be proportionally younger, better educated, with higher income and occupational status and from small households and larger communities than did nonpark visitors. Additionally, nonpark visitors tended to have larger than expected percentages of unmarried, divorced or widow/er among their ranks. Thus, in trying to determine park visitors from nonpark visitors there is an observable difference.

Second, using the same social aggregate variables it was found that they did not differentiate the park visitor who participated in interpretive activities. Thus, the characteristics that distinguished park visitors from nonpark visitors offered little in showing who does and does not participate in interpretive events once they visit the park. Another set of variables, social group and place, did distinguish participants from nonparticipants. These variables were length of residence and number of NPS areas visited in the past 12 months. Participants tended to live fewer years within their current state of residence and tended proportionally to visit more National Parks.

Third, two subgroups of interpretive activities were empirically verified. Personal and nonpersonal activity subgroups were found to exist for reasons other than medium of delivery. Each subgroup was

identifiable based on both extensity and intensity (rates) of participation. Additionally, based on measures of association, each subgroup tended to have a somewhat different audience.

Fourth, a variety of significant relationships appeared when the two different measures of participation--extensity and intensity--were ranked using Kendall's Rank Order correlation-coefficient (tau) against people and place characteristics. As shifts occurred in any variables there was an increase or decrease in participation--extensity/intensity or both. Statistically significant variables are presented in the discussion. These findings represent a description and second level analysis of three sets of data that may have meaning for interpretive settings other than National Parks.

DISCUSSION

The task was to study certain people, place and activity variables associated with interpretation in a systematic fashion. Following is a discussion of the four major findings.

Meyersohn (5) states that park going was a group level experience, and thus the study of characteristics of the individual (social aggregate) was not a meaningful approach. Yet, much of the park-related research, and to an extent interpretive research, has concerned itself with the study of individuals. In this study, characteristics of the individual--social age, marital status, education, income, occupation, size of household, and present population of hometown did differentiate park visitors from nonpark visitors. Once at the park, these variables did not differentiate participants from nonparticipants in interpretive programs. This indicates that we, as interpreters, are serving a certain segment of society. If we wish to advertise, we should know something about the socioeconomic backgrounds of those most receptive to our promotions. Likewise, if we are interested in trying to reach certain social aggregates that make up nonpark goers, we know where to go. Expanding off-site interpretive programs and creating more urban parks for the traditional nonpark visitor is addressing this.

As previously mentioned, the social group and place data were useful in distinguishing participants from nonparticipants. Years of residency in the present home state, a social group variable, has been suggested by recreation and park research to be positively correlated with a relatively stable social circle of significant others (close, important friends and family). It was found in this study that those who participated in interpretive activities tended to live fewer years in their present home state. This may indicate to interpretive personnel that serve a relatively mobile population that their potential to attract and serve is greater with this group than in more stable population centers.

The place variable--number of National Parks visited--was important in distinguishing participants from nonparticipants. Those

people who reported visiting a larger number of National Parks annually made up a significantly higher percentage of participants than did those who visited only one or two parks. Thus, many participants in both personal and nonpersonal programs were not first time visitors and had some understanding of interpretation. For those who are interested in evaluation, the comparison of programs by visitors may be a beginning point.

Existence of two empirically derived subgroups of interpretive activities--personal and nonpersonal--were verified. Sharpe (8) and others have drawn this dichotomy; the basis was in style of programming. This study sought to look at interpretive activities in terms of their meaning. It was found that when ranked by percentage, 50% or more of the participants engaged in nonpersonal activities while less than 50% engaged in personal activities.

In addition to looking at the rankings based on percentages, measures of association, phi and gamma, within and between subgroups were calculated. The calculations indicated participants were more likely to participate within one or the other activity subgroups rather than between them. In addition to adding further verification to the idea of subgroups this also indicates that promoting personal programs via nonpersonal medium may not be as effective as commonly believed. Perhaps personal invitations by roving interpreters may prove more effective than bulletin boards or flyers. Recognition of essentially two subclientele of interpretive participants may also aid in program planning.

These findings also raise questions regarding allocation of funds for personal services. Within the personal subgroup each participant engages in several personal programs. Additionally, when they travel to other parks they display similar participation patterns. Thus, our personal interpretive messages are being presented to a relatively small percentage of participants.

The last major finding of the study began to offer more information about participants. Extensity and intensity (measures of participation) were rank ordered, using Kendall's tau, against each people and place variable.

For extensity, with the statistically significant tau in parenthesis, an increase in extensity was observed as the number in household decreased (-0.67), as the number in the social group decreased (-0.45), as the number of household members in the social group decreased (-0.53), as the years of residency in present home state decreased (-0.45), as the years of residency within 50 miles of present home (-0.49), and as the number of days in or near the National Park Service area decreased (-0.49).

An increase in intensity of participation was noted as the social age decreased (-0.49), down to 18-24 years of age; as number in household (-0.49) decreased; as number of children in household

decreased (0.49), as number in social group decreased (-0.42); as number of household members in social group decreased (-0.42); as years of residency in present home state decreased (-0.42); as number of days in or near National Park Service decreased; and as hours in one day visitors decreased (-0.42).

These data not only suggest some interesting relationships but they also show that measuring participation in more than one way may reveal different findings. The study has gathered a variety of similar data at three different geographical locations employing three different methods at three different points in time; yet each data set is similar to the other. Thus, the validity of what was collected is relatively sound. Application of these findings to sites other than NPS areas, however, should be done cautiously lest we purport to solve problems we do not yet fully understand.

FOOTNOTE

1. This document is an abstract version of a dissertation by the author. Copies of journal articles detailing various aspects of the study and conclusions drawn will be available from the author upon request after December 1980. This study was supported in part by the Dept. of Recreation & Parks, Texas A&M University, the Cooperative Park Studies (NPS), University of Washington and School of Natural Resources, The Ohio State University.

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CLASSIFICATION FOR URBAN INTERPRETATION RESEARCH AND PLANNING[1]

Daniel J. Stynes and Samuel B. Jackman[2]

Classification is a special case of the more general processes of definition and measurement. As such, it shares with them an important role in the advancement of knowledge. Classification organizes information which in turn directs inquiry. The ordering of information is a prerequisite to both systematic planning and research. (5, 11)

The failure to develop and apply appropriate classification schemes has slowed progress in both interpretation planning and research. Hodgson (7) lists the development of a taxonomy of objectives as the highest priority for guiding interpretation research. Our purpose here is to encourage greater attention to and use of classification in interpretation research and planning. More specifically, we discuss rationales for a comprehensive approach to urban interpretation and illustrate the contribution of classification to a more systematic approach to interpretation planning and research in cities.

CLASSIFICATION IN INTERPRETATION

Classification is certainly not new to interpretors. Indeed, a common criticism is an overemphasis on taxonomic descriptions in interpretive programs and signage. What we are calling for here is a broader look at classification. Several useful classification schemes bear pointing out since there is a tendency to overlook and underestimate their contribution. Cherem (3) has assisted in defining the scope of the field of interpretation by classifying interpretors according to both subject matter and site. Sharpe (13) classifies the range of services provided by interpretors. Attempts also need to be made to classify visitors into types or market segments in order to better tailor programs to a given audience (12).

Perhaps the most common use of classification is in the resource inventory process. Badaracco and Scull (1) illustrate the application of resource classification to interpretive planning in the California desert. It is this type of "megascale" or comprehensive interpretation planning that directed the development and

1. This research was supported by the US Forest Service NC Forest Expmt. Sta. under cooperative agreement # 13-645.

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application of the urban resource classification scheme described below.

URBAN INTERPRETATION

As interpretation turns its attention to urban environments and audiences, the need for suitable classification schemes becomes even more evident. Several features of urban areas make a systematic, comprehensive approach to interpretation in cities even more important than at more traditional interpretive sites.

1. Complexity and magnitude of urban problems
2. Wide range of objectives for urban interpretation
3. Diversity of urban interpretive service providers
4. Diversity of urban interpretation facilities
5. Mixture of population subgroups in cities
6. Broad subject matter of urban interpretation

It is hard to envision an urban problem that interpretation could not contribute to solving. The objectives for urban interpretation can therefore be as broad and complex as the urban crisis itself. These objectives and an understanding of the urban ecosystem will not be achieved by uncoordinated interpretive programs at isolated urban sites. There is a real need for comprehensive interpretation planning and research in urban areas that transcends individual providers and interests.

Urban interpretation facilities range alphabetically from arboreta to zoos including many non-traditional facilities like vacant lots, sidewalks, buildings, and industrial plants. Service providers include a mix of public, commercial, and non-profit organizations serving a variety of age, ethnic, racial, and special interest groups.

"When we consider the urban community to be an ecosystem, then the subject matter for interpretation is limitless". (13:334) The fact that gutter walks (2) and supermarket walks (9) are viewed as tremendously innovative suggests that our view of interpretation in cities is too narrow. If nothing else, broad classifications of subjects for urban interpretation may suggest a much larger set of possibilities. We might begin with the question, "What is a city?"

CLASSIFYING COMPONENTS OF THE URBAN ECOSYSTEM

The much broader range of subjects for urban interpretation requires a closer look at the question, "What should be interpreted?" Some ordering or classification of the alternatives is needed. Multi-digit classifications of the components of urban ecosystems are recommended to guide urban interpretation. Doxiadis's (5) ekistic grid is perhaps the most widely applied such classification. For the past year we have been experimenting with the application

of a variation of this classification to urban interpretation planning.

A 5-digit classification scheme was developed from the ekistic grid and two other urban classifications (4, 14). Employing content analysis procedures (8) the subject matter of exhibits, interpretive trails, walks, slide programs, and pamphlets at several interpretation facilities in Lansing, Michigan were categorized into the classification scheme. These efforts formed the basis for a number of research and planning analyses.

PLANNING AND RESEARCH APPLICATIONS

One such application was the development of profiles of subjects interpreted at different types of facilities. Examples of profiles for selected facilities at the 3-digit level of classification are depicted graphically in Figure 1 along with a very brief summary of the classification scheme at the 2-digit level. Greater detail for 3 and 5-digit levels of classification are reported in Jackman (10). Planning for interpretation must begin from a clear understanding of the system being planned. In planning and coordinating the content of interpretation programs, profiles of current offerings, like those depicted in Figure 1, provide a starting point for evaluation of existing programs and the planning and design of new ones.

Evaluation could be carried out by matching current program content with resources in the area, with priorities for different subject matter themes, or with segmentations of interpretation audiences based upon program preferences. While the emphasis on flora and fauna in nature center programs (Figures 1a, b) is somewhat balanced by more attention to man and the built environment in history (Figure 1c) and science museums (Figure 1d), the profiles suggest a need for coordination to achieve a more integrated ecosystem approach to urban interpretation. Classification can assist in identifying common themes or opportunities at distinct sites and facilities permitting the design of town trails (6) and systems approaches to interpretation (15).

The aggregated citywide profile of interpretation subjects (Figure 1e) can be used to identify gaps or excessive duplication in offerings, providing a systematic way of setting priorities. New programs could be designed to avoid duplication, achieve a balance in services based upon spatial or other criteria, or to coordinate offerings of different locations or providers.

The facility and community interpretation profiles raise a plethora of research questions, many that can be productively addressed via an appropriate classification scheme and content analysis procedures. Examination of the content of interpretive messages from the sender's or receiver's viewpoint immediately comes to mind. We know very little about what criteria are used in

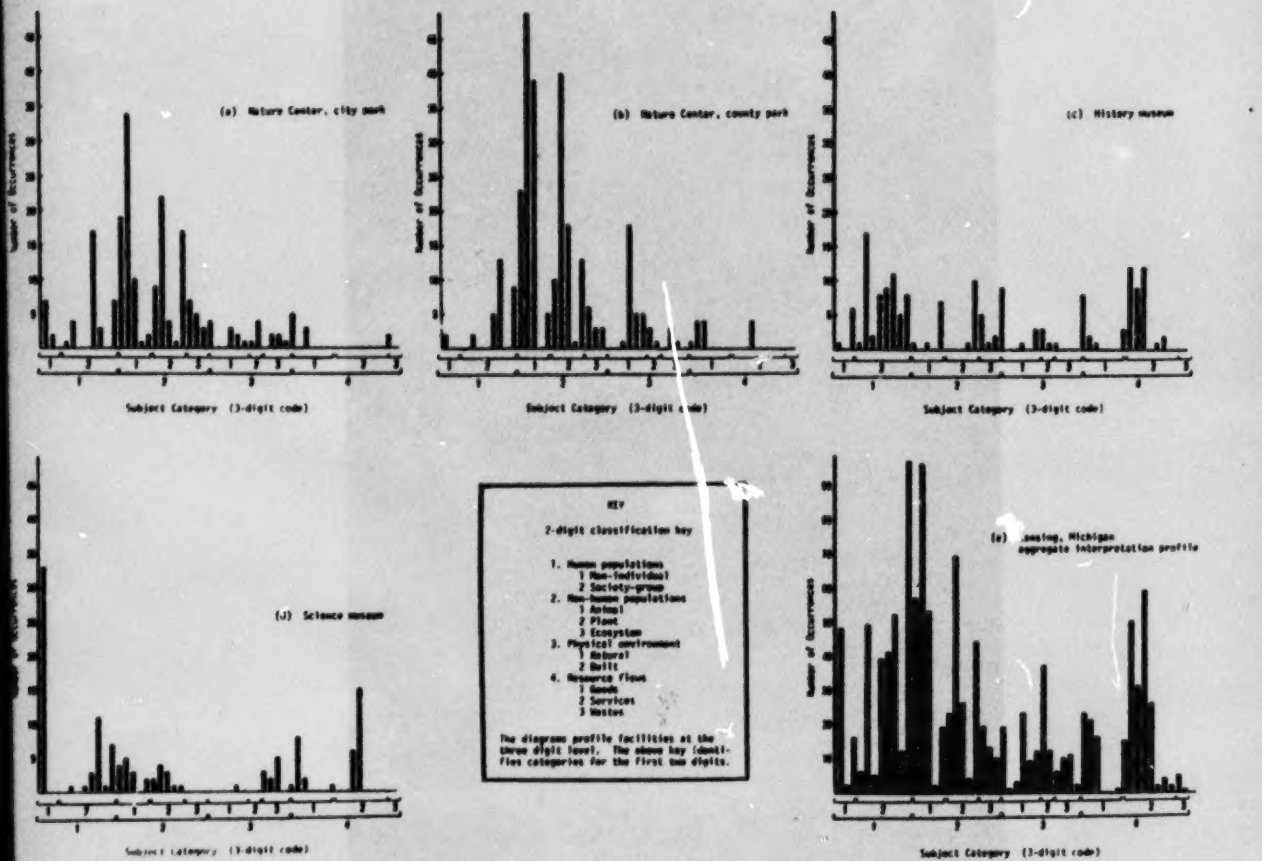

Figure 1. Frequency Distributions of Content of Interpretation Programs at Selected Facilities

selecting content, which topics are preferred by different audiences or which subject areas contribute most to interpretation objectives.

CONCLUSIONS

Our topic is clearly much too large for such a short paper, but like a good interpretor, our purpose is more to provoke and stimulate our audience than to provide all of the answers. This is convenient; first, because we lack most of the answers and second, because the present stage of development of interpretation planning and research calls for experimentation with a variety of classification schemes and planning tools rather than the premature acceptance or adoption of any one. Our experience in applying classification schemes to interpretation planning and research suggests that we have only touched the surface of possibilities.

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YUGOSLAVIA'S NATIONAL PARKS

Bonnie Haimes and Milos Blagojevic*

In introducing you to the National Parks in Yugoslavia, it is important that we first mention a few facts about the country.

Yugoslavia is located in southeastern Europe, and is bordered by Albania, Greece, Bulgaria, Rumania, Hungary, Austria, Italy, and the Adriatic Sea (See Map 1). The total area of the country, 255.804 km^2 comprises 2.5% of Europe (1). This is roughly comparable to the size of Wyoming.

Yugoslavia is a very mountainous country. Approximately three-fourths of Yugoslavia is mountains and plateaus, and the remaining area is made up of the Pannonia plains and river valleys. These features, and the three different vegetational areas associated with the Dinaric Alps, the Mediterranean, and the Pannonian plains, create a varied and beautiful topography, and richness of flora and fauna.

There are more than 250 lakes, about 300 hot springs, 100 waterfalls, 105 mineral springs, 20 canyon areas, and more than 40,000 caves (1:72). In addition, there are over 1,900 rivers of more than ten kilometres-one of the highest numbers for a European country.

Yugoslavia also has a very spectacular coastline, the most jagged of all the countries bordering the Mediterranean. The total length of the coastline, excluding islands, is 2,092 kilometres. Along this coast are more than 1,000 islands (1:73).

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Map 1

The Federal Constitution of Yugoslavia states that all people have the right to clean water, air, and enjoyment of these areas. More specific regulations, however, and the direct control of Park areas, do not come from a federal governing body.

The Socialist Federal Republic of Yugoslavia is made up of six republics and two autonomous provinces. Designation of National Park areas is not made by any federal governing body, but instead by the individual republics. The republics must take some responsibility to protect these areas. The National Park areas are places of special interest for all society.

All the republics have adopted a single definition of the criteria for a National Park as, "A wide area with specific natural, cultural, scientific, educational, aesthetic, touristic, and recreational value which includes one or more conservation areas where the ecosystems are untouched or have not been changed significantly." (2:54)

In the National Parks are permitted all activities which are not dangerous to the authentic flora, fauna, hydrographic, geomorphologic, geologic and the landscape value of the national park, as well as activities which will preserve or establish a natural balance.

These basic concepts are the only uniform policies throughout the national park system in Yugoslavia. All other laws relating to the National Parks are made by the Assemblies in the individual Republics.

Representatives from all of the national parks have gotten together at three seperate conferences, held in 1967, 1978, and 1979 to try and develop some more uniform policies, and to share ideas. At the final conference, Kosovo, 1979, it was concluded that a Park Service on a federal level should be instituted.

The oldest National Park, Plivice National Park, was established on April 8, 1949 in the Social Federal Republic of Croatia. It was not until 1960 that a management program for the park was completed. Presently, besides the main attraction, 16 connected lakes with waterfalls, Plivice has

much to offer the visitor. They have Visitor's Centers with displays, guided walks, and trails, camping, rowing, fishing, horseback riding, hunting, tourist facilities, and other activities. It's the most developed of all National Parks in Yugoslavia.

Plivice is one of 15 National Parks. Besides the 15 National Parks, there are 17 regional parks, 171 national preserves, 88 recreational areas, 536 natural monuments and 56 memorials in Yugoslavia. This national heritage is spread over six republics and two autonomous provinces, so that there is no uniform politics for all (1:75). To give some idea, however, of how a National Park operates, we will explain National Park Durmitor, one of three National Parks in Montenegro.

In 1952 120 km^2 located around five lakes and the town of Zabljak (pop. 1,300) was declared a National Park, Durmitor. From 1952 to 1978 there wasn't any National Park organization established.

In 1978, a law was passed by the highest governing body in Montenegro, the Republican Assembly (3). They ruled to establish a National Park Assembly to set up an organization and employees for the National Park Durmitor. They also, with the National Park definition in mind, added on 280 km^2 including the canyon of the River Tara, and Massif of Durmitor with 11 glacial lakes.

This law also established seven zones in National Park Durmitor. Each of the zones has different types of restrictions, ranging from areas which can only be entered by scientists with special permits for research, to areas open to several interests, tourism and recreation included.

In National Park Durmitor, 90% of the land is national land belonging to the people of Yugoslavia. The other 10% is privately owned and belongs to 4,000 people who live in the National Park area. These people have certain restrictions on what they can do with their land, depending on what type of zoned area they are in. Restrictions cover many things, even the type of architecture permitted, to keep authentic the natural and cultural heritage.

The funding for the National Park comes from three sources. The Republican Assembly covers the cost of 40%

of the expenses in the Park. All organizations with any interest in the National Park provide 35% of the funds. The remaining 25% must be raised by the Park itself-by cutting diseased trees and selling the lumber, concessions, parking, rafting, etc. (3)

At the present time, National Park Durmitor still has no management plan. There is a plan in the process of being written, and it is near completion. The final acceptance of the management plan will be given by a special scientific body responsible for National Park Durmitor.

Durmitor, along with Plivice, are the two National Parks in Yugoslavia selected by the IUCN (International Union for Conservation of Nature and Natural Resources.) to be on their World Heritage list, because of their special features, and beacuse of the importance of these features for all people of the world.

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Map courtesy of the Yugoslavia National Tourist Office, 630 Fifth Ave., New York, N.Y. 10111

THE BEST OF BOTH WORLDS

CULTURAL & NATURAL HISTORY DOWN ON THE FARM

Dianna L. Elliott

The relationship of humans to our environment is one of the most basic concepts we can convey through interpretation. Wendell Berry, in The Unsettling of America: Culture and Agriculture, suggests that "no matter how general may be a person's attitude toward the world, his impact upon it must become specific and tangible at some point. Sooner or later in his behalf - whether he approves or understands or not - a strip miner's bulldozer tears into a mountainside, a stand of trees is clear-cut, a gully washes through a cornfield." (1:47) The understanding of our impact on systems that are interrelated is our concern as educators and interpreters.

In the principle of , "you can't do one thing" all parts of a system are interconnected. This principle applies equally to natural, agricultural and cultural systems. Everything really is connected both within and between systems.

The roots of agriculture are both cultural and natural. Historically, agriculture has allowed societies and cultures to develop beyond the tribal, subsistance level. Civilizations have flourished where agriculture existed, and where agriculture was no longer possible, civilizations collapsed.

Present-day farming conjures up some interesting mental pictures. On the one hand, it evokes images of good 'ole days, a big family garden with chickens in in the farmyard, warm, sweet milk from old Bossie and the dusty smell of new hay in the barn. On the other hand, we also know the images of gigantic combines roaring through the endless fields of wheat, soybeans and corn, cattle feedlots, chicken factories and populations of impoverished migrant farm workers. These images may seem worlds apart, but they are both real, both present. However, the large scale loss of small family farms threatens to do away with a part of our society that has been the very basis of our culture.

We are also reminded of the interconnections between agricultural and natural systems by the devastating consequences of losing four square miles of our best farmland every day. (2) Farming the remaining marginal land is costly not only in terms of economics, but also in loss of natural diversity and balance. Secretary of Agriculture, Bob Bergland, believes, "Failure to protect our agriculture and the natural resources on which it depends will put us on a collision course with disaster." (2:3)

Making these connections is crucial to understanding our role within our world, but effectively educating toward these understandings is not an easy task. If we subscribe to the theory that education should take place in the situation most conducive to learning, we at least have a variety of settings from which to choose. Consider the farm.

According to this theory, history may be learned best in a setting alive with history. Thus, living historical interpretation has evolved. While living history generally refers to interpretation of an historic period in such a way that visitors actually feel a part of that time, it can include a multitude of sites, techniques and approaches. Considering the agricultural history of this country it's no wonder that there are are an ever growing number of living history farms opening to visitors. An understanding of our past and the road we've come has never been more important. There have never been so few who understood.

With the increased urbanization of our countryside and a slow, but sure awakening to the fact that we have a limited amount of farmland which is rapidly being lost, education of and about modern farming is increasing. People have to understand where their food comes from in order to recognize and appreciate the irony of a supermarket parking lot built on prime farmland. Farmers themselves are interested in educating the public about the facts of agriculture. They are tired of being the bad guys in the eyes of consumers and need to be recognized for the vital,but often thankless role they fill in our society.

Most of the environmental education and interpretation that takes place in this country occurs in settings in which people do not ordinarily live. The forest, seashore, mountains are all wild places essen-

tial to human life, but perhaps they are not the best places to learn the basic ecological concepts. The potential for using agricultural areas in natural history interpretation has not been fully recognized. Kupcnella and Hyland state, "Students must be brought out of the woods literally and figuratively in order to see that environmental problems are not things that can be solved by totally eliminating man's impact. After all, there is no way that man can exist on this planet without having an impact. The farm is far more representative of the way the world really is." (3:58) Examples of ecological principles that can easily be developed in a farm setting include food chains, energy flow, succession, chemical cycles, eutrophication and the list could go on. But most important of all, the farm vividly portrays human beings as part of the ecological system and provides an excellent example of our dependence on the land.

These are not the only potential uses of the farm for education and interpretation. Consider the consequences of doing away with farming as we have known it and totally replacing machines for farmers and land caretakers, agribusiness for families, progress that separates us from the land and operates the earth as a factory. Where there is value in smallness, diversity, social structure and an ethic of earth-keeping, there is much for us to learn and pass on to our children. Berry states, "If agriculture is acknowledged to have anything to do with culture, then it's study has to include people." (1:88) There is no better environmentalist that a good farmer.

Twenty years ago there may have been two or three educational farms in this country. But, there were many more working farms then too. In 1962 the National Audubon Society dedicated the Aullwood Audubon Farm, a 120 acre working farm with adjacent natural areas. It was the first of its kind in the midwest and one of the first in the country. The intention of the National Audubon Society and Mrs. John Aull, who donated the land, was that Aullwood be a place where city children could come to find out what a farm was really like.

During the eighteen years that followed, three more educational farms have been developed in the immediate Dayton area. The Dayton Montgomery County Park District aquired Carriage Hill Farm in 1968. This well-kept farm dated back to the 1880's. Historic restoration begun in 1971 has just been completed, but

by remaining open during these nine years of restoration hundreds of thousands of visitors have been able to share in the experiences of farming in Ohio before the turn of the century.

The Park District also operates Possum Creek Farm. This facility helps fill the tremendous need in urban areas for a place where young children can experience a farm first-hand. Utilizing the farm animals, gardens, pastures and natural areas, visitors come away with an understanding of what makes up a farm.

The Learning Tree Project is an independent outdoor education center, Started in 1973 by two very dedicated women, it is an 82 acre land laboratory "for experimenting with natural curiosity, under conditions that allow the exuberant movement of body and mind." (4:1) This facility is also designed to give children first hand experiences in a farm and outdoor setting.

Over the past eighteen years, Aullwood Farm has undergone changes in both philosophy and programs, although underlying goals remain the same. A recent merger with the adjacent 70 acre Aullwood Audubon Center has opened up new possibilities for combining farm and forest in educational programming for all ages. These programs are characterized by an emphasis on interrelationships between agriculture and natural areas and the use of the farm community to illustrate man's role in the system.

It might seem that Dayton has an overabundance of educational farms, expecially considering that there are three additional educational farms within a fifty mile radius of the city. Certainly few other metropolitan areas are so well endowed. But there is no evidence that we have too many of these facilities. Judging from the frequent requests for information about starting farm programs, many more are on the drawing boards all over the country.

As the urban areas grow ever larger, crowding out the existing operating farms and driving small farmers out of the land owning and caretaking business will these educational farms become remnants of a past era, living history farms before their time? Berry concludes, "We can build one system only within another. We can have agriculture only within nature and culture only within agriculture. At certain critical points these systems have to conform with one another or destroy one another." (1:47) Utilizing the potential

of the farm setting may not only be more effective interpretation, it's also an opportunity to ensure that decisions are made and directions are followed that protect both the heritage of our past and the potential of our future. Perhaps the farm is, after all, the place where it all fits together.

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FOLK FESTIVALS
AS A TOOL FOR CULTURAL AND NATURAL INTERPRETATION

by
James W. Williams *

INTRODUCTION

The region served by the Hamilton County Park District is rich in Appalachian culture. Cincinnati is one of the major cities adjoining the Appalachian area. Because of this close proximity, people of the mountains descended into the city of Cincinnati with a hope for a more prosperous future thus bringing with them styles and customs of their heritage.

For many years, the Education Program Department of the Park District has conducted special programs and hikes emphasizing the folklore and herbal remedies indicative of Appalachia. These programs attracted an audience with a sincere and deep curiosity about actual origin and authenticity of the mountain people's customs, knowledge of herbal medicines and cultural habits.

In March, 1978, the Park District expanded its programming by presenting an Appalachian Concert that included an interpretation of the music and instruments of the mountain people. Over one thousand persons braved a four inch snowfall to attend the Concert. Due to the success of the program, the Education Program Department began to search for a method to improve and enlarge the scope of its interpretation of the Appalachian Mountains and its cultural heritage. The decision was then made to present an all-day Festival to promote the music, crafts, folklore and customs passed down from generation to generation. From this beginning, the Down Home Mountain Festival was born.

The primary purpose of the Hamilton County Park District is preservation of our natural resources. Parks are quite literally all things to all people. They are quiet retreats, protected natural preserves and pleasant recreational areas, offering peaceful, natural settings in which to relax. Would the attraction of a large number of park visitors in one concentrated area such as a Festival, destroy the natural serenity created by the park atmosphere? With proper organization and planning, it would be possible to present a major festival without jeopardizing the Park's purpose. It was also determined, in order to make the Festival compatible with the park's educational policy, the Festival must maintain the highest level of authenticity possible.

A committee of Park District personnel and volunteers was created to produce the Down Home Mountain Festival.

ORGANIZATION

It was important from the beginning that the Down Home Mountain Festival provide an authentic and realistic climate.

Not only should the Festival provide entertainment, but should seek to accent true Appalachian traditions and skills. The planning of the Festival emphasized three major categories. One category would be the authentic type of mountain music. The second would provide Appalachian craftsmen the opportunity to sell their wares, and the third category, which is the most important, would offer craftsmen and musicians an opportunity to demonstrate their unique skills before the public.

The Committee determined the musicians selected for the Festival should exemplify the true traditional sounds of the Appalachian Mountains. Because the greater Cincinnati area is rich in Appalachain immigrants who could provide the true Appalachian sound, we decided the majority of musicians should be acquired locally. This was also true of the craftsmen to be contacted for exhibitions and sales. There were several approaches available in order to provide educational demonstrations. One approach would be demonstrations where artisans could provide a close-at-hand view of the step-by-step procedure involved in the creation of the specific craft. There was also a hands-on approach offering the opportunity to visitors to try their hand in the making of the various mountain crafts or to participate in several mountain games. An opportunity was also provided to view films depicting mountain craftsmen demonstrating their talents.

In order to accomplish a successful Festival, it was necessary to create a variety of committees, intricately working together, with special responsibilities.

The Festival Committee Chairman was appointed to supervise the various aspects of the overall organization.

The Music Committee's responsibility was to organize the musical program. This Committee was directed to contact and hire various musical groups and to schedule the musical activities throughout the Festical hours. This Committee was also responsible for obtaining the Audio-sound company. Acquiring the proper sound system was one of the most important tasks, so the tone or sound of the performances was as accurate as possible. The Music Committee was charged with the duty of selecting the widest variety of performance styles available, and that each group demonstrate their own unique sound.

Two very important committees to make the Festival a success were the Exhibitors or Craftsmen Committee and Demonstrations Committee. The Exhibitors Committee was given the responsibility of locating traditional Appalachian craftsmen who would be willing to contract for booth space. The fee established for craftsmen's participation in the Festival was determined by the expenses involved

for the provision of booth space. All merchandise sold had to be approved by the Committee and Festival Chairman as to authenticity. The Demonstrations Committee obtained craftsmen willing to perform during the Festival hours. Free booth space was provided for each Demonstrator, and the results of the demonstration were placed on exhibit.

The Festival was largely dependent upon the Donations Committee and its results in obtaining financial contributions to offset the Park District's cost of production. The Donations Committee subsequently the second year, raised over $5,000 from local foundations, businesses and individuals.

The Publicity Committee is of vital importance to the Festival itself. This Committee's responsibility was to provide the widest coverage possible to promote the Festival.

In order to assure a smooth flow within the Festival area, the Staging Committee was given the responsibility of designing the layout of the Festival grounds. It was important that the movement between the concert area, the craft booths, the demonstrations and the food concessions provide for easy access for the large anticipated attendance.

As visitors arrived it was important they receive a proper welcome. To carry out this responsibility, two Committees were formed. The Parking Committee was created to provide easy access to the Festival grounds, with a minimum of congestion. The Host/Hostess Committee provided a pleasant welcome with general information about the activities and scheduled events.

The Banking and Business Committee was in charge of the financial operations of the Festival. This Committee was responsible for the development of a budget, establishing special accounts, fulfilling contracts and covering all expenses. At the conclusion of the Festival, this Committee provided a cost-analysis of the Festival to determine its financial success.

In order to obtain some financial assistance toward the overall expenses of the Festival, a Committee was organized to operate a Park District booth. The booth would sell park oriented merchandise along with performing musicians' records, and yet avoid items which would be competitive with the attending craftsmen.

PROMOTION

To create interest in the Festival several methods of promotion were designed to reach all areas of the greater Cincinnati community. Posters and flyers were designed and distributed by the thousands. Cooperation was obtained from many businesses who were willing to display the posters and distribute flyers to their patrons. Volunteers in the Park District distributed flyers in many communities

in the tri-state area. Through the tireless effort of the Committee, over $30,000 in contributed radio and television commercial time was essential in the development of public awareness and attracted attention to the event. The inclusion of the announcement of the Festival in radio and television commercials was in addition to the normally obtainable public service announcements.

In order for the Festival to succeed, cooperation with local companies in promoting the Festival was invaluable, such as free printing of posters and programs; and the provision of billboard space in prominent locations throughout the community.

OPERATION OF FESTIVAL

The Festival Committee, in determining the location for the Down Home Mountain Festival, had to keep certain factors in mind. The area to be selected for the Festival should provide ample parking, a natural amphitheater for the concert, adjacent flat areas for the crafts booths, and facilities for food concessions, plus easy access to major transportation arteries. It was also important that the area provide a beautiful, aethestic setting, without jeopardizing the natural environment. The Committee selected the Miami Whitewater Forest Park, a 2,200 acre park located in the gentle rolling hills of western Hamilton County. This park provided all the necessary requirements for a successful Festival. The site chosen was the Harbor Pavilion on the shores of the beautiful Whitewater Lake.

The grounds provided for the Festival was divided into thirds. The Concert area provided continuous music and story-telling throughout the day. This area also provided an opportunity for visitors to try square dancing and mountain clogging. One of the major concerns for this space was the efficient transition between each of the performing groups.

The second area, in which the crafts people displayed their wares and performed demonstrations had to be in a location which would not interfere with the concert audience, and yet be close enough to allow background music. Tented booth areas were provided for each craftsman and demonstrator. The booth space was designed to allow an easy and continuous flow for the shoppers between this and the concert area.

The third area for the Food Concessions was provided to serve not only typical refreshments, but also an old-fashioned chicken dinner. General refreshments were served from the Harbor Pavilion permanent concession stand, with a large tented area for the chicken dinners. This concession was operated by the Park District Concessionaire, with the Park District sharing in a percentage of the profits.

Judging from past experience and observations, the Park District wished to avoid the problems of coping with a vast amount of litter. A major plan was developed involving the Maintenance Department and the

Volunteers to cope with this problem. Crews were scheduled throughout the day to continually patrol the Festival grounds, picking up litter, and emptying waste containers placed strategically throughout the Festival grounds. Because of this major effort, Festival visitors were observed conscienciously making an effort to dispose of their litter at the designated places, even to the extent of visitors assisting in litter control. Due to these major efforts, clean-up after the Festival required minimal effort on the part of the Park District's maintenance crews.

FESTIVAL FUNDING

Because of limitations in the Park District's budget for education programs, several methods of funding had to be developed. These included possible foundation grants, contributions from businesses and individuals, and income earned during the festival. During the first year, it was discovered that many foundations, businesses and individuals were cautious of contributing money and support to the project. However, after the success of the first festival, cash contributions increased from $500.00 to almost $6,000 for the current year's Festival. The success of the cash contributions was directly attributed to the tireless efforts of the Park District's volunteers who conducted a solicitation campaign.

Other forms of contributions came from local businesses in the form of contributing radio and television commercial time in conjunction with their own advertising, printing of the Festival program and posters.

Funding was also made possible through minimal charges of booth space to cover the cost of rental and construction. Funds also were derived through the operation of the Park District booth. This booth was under the supervision of Park District Volunteers and sold various items with mass appeal, such as Festival T-shirts, balloons and park oriented material. Another financial advantage was the percentage of income earned from the profits of the Park District Food Concessionaire.

In keeping with the policy of the Park District's general educational programs, which are open to the public without charge, an entrance fee for the Down Home Mountain Festival seemed incompatible. Also, since the intent of the Festival was to provide an educational experience, as well as entertainment, charging a fee seemed inappropriate. Therefore, it seemed more desirable to rely on other methods of funding.

BENEFITS TO THE PUBLIC AND TO THE PARK DISTRICT

The Down Home Mountain Festival offered individuals and families an opportunity to enjoy an outing in a beautiful natural setting. Park visitors were able to enjoy good traditional mountain music, observe artisans at work and were provided with the opportunity to purchase at reasonable prices, crafts indicative of the Appalachian mountains. Opportunities were also made available to learn through observation and

participation of the folklore, the crafts and the music of a major American culture.

A Festival of this type offered the Park District the opportunity to expand its specialized programming to the people of the region. Because of this program, the Park District was able to promote the use of one of its parks as a place where the public could enjoy a major event in a pristine atmosphere. After the Festival, many visitors returned to the park time and again to enjoy other activities offered throughout the year.

Due to the tireless effort of the staff of the Park District and its many volunteers, the first Down Home Mountain Festival was a success with more than 12,000 visitors enjoying the day's activities. Since Appalachia is steeped in tradition, the Down Home Mountain Festival has now become a tradition within the Park District. The second Annual Down Home Mountain Festival has been expanded into a two day event with more emphasis on increased musical entertainment, educational displays and the opportunity to learn more about the culture and traditions of Appalachia.

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"Thoreau Rambles"

An Account of Beginning the Walden Pond Interpretive Program

Dorothy Zug

July 4, 1978 dawns overcast and rainy. I am relieved to have another day to work on "Thoreau Rambles", the guided walk at Walden. The task of finding a way to tell the story of Henry Thoreau at Walden is a challenge, and the time to develop it has been short, but I want to start the first walk today because Thoreau moved into his small house at Walden on July 4, 1845, 133 years ago today.

I spend the morning in the field office at Walden reviewing the sections from Walden and Thoreau's Journal I plan to read, and thinking over the walk route. When I am satisfied that I am as prepared as I can be, I decide to try the walk before considering alternate routes or varying the quotes to be used.

When I arrive back at Walden from lunch, I am surprised to find a group waiting for me. Walter Harding, Secretary of the Thoreau Society, introduces himself and his five students. Since they are well aware of this anniversary and prepared for walking in the rain, we set off. I wonder aloud what I might tell Dr. Harding's students that he has not already covered, and he responds, "This is your walk. Just do what you have planned." When we stop, a student holds the umbrella over my head to keep the book dry as I read, and we walk through the woods around the pond on the first "Thoreau Ramble". Occasionally, we stop while I read from Walden and the Journal sections that tell why Thoreau came to Walden, some of his activities while he was here, and finally, his conclusions about his experiment living a life of simplicity. That first walk was followed by walks for 1500 people, five days a week all summer and fall Sundays through Thanksgiving.

Before I was hired as a seasonal interpretive naturalist for the summer of 1978, there had been no one working full time on the interpretive program at Walden Pond. Volunteers had developed a Thoreau house site brochure and the site had been marked with granite posts.

Walden Pond is a state reservation half an hour's drive from the city of Boston. In addition to being a historic site, it is a busy recreation area. This sixty-one acre kettle hole filled with clear water offers the best fresh water swimming close to Boston. Sometimes on a hot summer day 3,000 people are at Walden to swim, walk, sit, and keep cool.

People come from all over the country and many parts of the world to visit Henry Thoreau's chosen woodland setting at Walden Pond. What, in addition to a guided walk, could be done in the midst of recreational activity to make their visits meaningful?

There is no bulletin board, but on the brown picket fence posters with Thoreau quotes and Elliot Porter pictures are posted daily, and a small table at the parking lot edge bears the sign "Thoreau Information", and I am there to talk with visitors.

After several people complain, "I've walked all the way around the pond, and I can't find Thoreau's house site. Can you tell me where it is?" I get permission to install a sign at Thoreau's Cove to point the way up the hill away from the path to the site, but since in the Department of Environmental Management signs are winter work, I will have to construct it myself. Sign making is not something I have done before, but I find an old picnic bench seat and some posts in the wood pile, and my friends help me assemble and letter the sign.

In the fall the Director of the Department decides to make the Walden naturalist position year round to continue developing the interpretive program.

Over the winter a plan for signs at Walden is developed. One of the signs tells the story of the first marking of Thoreau's house site with a pile of stones called a cairn. Because these stones were being tossed in the woods, they had been removed. When they were returned two years later in 1978, they were placed 20 feet to the left of the posts marking the house site, and many people wondered about the pile of stones. The cairn sign explains, "Thoreau's cairn follows an ancient tradition of erecting stone pile markers. In June, 1872, Mrs. Mary Adams, a visitor from Iowa, and Bronson Alcott of Concord, placed the first stones to mark the site of Henry Thoreau's small house. Admirers continue to add stones in tribute to Thoreau's achievements as a writer, naturalist, philosopher, and individualist." Since this sign was installed, the cairn has grown wider and taller as people carefully add their own tribute.

We plan "Winter Walks" with a different emphasis since stops must be short in cold weather. I will talk about the pond in winter, how it freezes, how thick the ice is, and make other natural history comments, but when I think of reading quotes about winter from Walden, I hesitate. The words are magnificient to me still, but why should I always be the one to read? Out of this reluctance grows the idea to have participants read aloud Thoreau's thoughts about winter. At the beginning of each walk I explain that since this is our walk, I hope they will help by reading the quotes typed on cards that I will pass out. Everyone gladly takes a turn, an ingredient of variety as well as participation is added to the walks. On six winter afternoons the walks draw 125 people.

Since these small beginnings, seasonal walks and the "Thoreau Ramble" have become so popular added staff and volunteers have been needed. Sometimes the publicity has been so good we have been nearly swamped such as the clear, crisp wintry day when 90 people came to a guided winter walk.

What about the future of the interpretive program at Walden. As I look ahead, I have many ideas. I think of converting an unused building into a visitor's center and of having a bulletin board where map routes around the pond and paths to Thoreau's house site can be permanently displayed. I want to find someone to develop a living history program.

If you had had the chance to begin the program, what would you have done? What direction would you take now to plan the route for the future of the Walden interpretive program?

Dorothy Zug
Naturalist
Walden Pond State Reservation

THE THREAD THAT BINDS...USING ANCIENT CRAFTS TO CORRELATE CULTURE WITH ENVIRONMENT

Don Wirth
Danielle Wirth

OUR PROGRAM DEALS WITH THE USE OF FUNDAMENTAL CRAFTS TO INDICATE HOW AN ENVIRONMENT MOLDS A CULTURE. AN ENVIRONMENTAL ETHIC EVOLVES FROM THAT CULTURE WITH THE PASSAGE OF TIME. SKILLS INCLUDE: FLINT KNAPPING, FIRE-BY-FRICTION AND CORDAGE MAKING.

OBJECTIVES:

1) STIMULATE INTEREST TO CREATE A LEARNING SITUATION CONDUCIVE TO INQUIRY AND SUBSECUENT SELF-REVELATION.
2) GAIN PROFICIENCY IN THE "HANDS-ON" PRACTICE OF ANCIENT CRAFTS.
3) USING ABOVE LEARNED SKILLS TO COMPREHEND POSSIBLE ENVIRONTAL ETHICS OF PAST CULTURES VS. ETHICS OF TODAY.
4) PERPETUATION OF THESE ARTS FOR POSTERITY'S SAKE.
5) POINT OUT THE PITFALLS OF INSUFFICIENTLY RESEARCHED, CULTURALLY BIASED HISTORICAL PROGRAMS ... AND HOW TO AVOID THEM.

CONCEPTS STRESSED:

1) ENVIRONMENT DICTATES CULTURE.
2) AVOID ETHNOCENTRISM IN HISTORICAL/CULTURAL INTERPRETATION.
3) IN ANCIENT CIVILIZATIONS, VALUE JUDGEMENTS CONCERNING THE ENVIRONMENT WERE PROBABLE NOT MADE UNTIL RUDIMENTARY CULTURE DEVELOPED.
4) HISTORICALLY, RESOURCES WERE ALWAYS EXPLOITED BY HUMANS. HOWEVER, WHEN THE 600 PLUS LANGUAGE GROUPS ROAMING THROUGH ISOLATED POCKETS OF AMERICA EXHAUSTED A SITE, THEY HAD THE OPTION OF MOVING.
5) ABORIGINAL POPULATION NUMBERS ARE INSIGNIFICANT COMPARED TO OUR POPULATION DENSITY TODAY. THE SITUATION BEFORE US IMPLIES THAT CONSERVATION IS ESSENTIAL FOR CONTINUED SURVIVAL. MOVING-ON IS NO LONGER POSSIBLE.
6) SENSITIVITY TOWARDS NATURAL THINGS SHOULD DEVELOP THROUGH LAND STEWARDSHIP IDEAS DEMONSTRATED THROUGH SOUND LAND MANAGEMENT PRACTICES.
7) SKILLS PRESENTED HAVE DISTINCT ADVANTAGES FOR INTERPRETERS IN GROUP SESSIONS.

WORLDWIDE, HOMO SAPIENS OF 1980 ARE LINKED BY A HANDFUL OF PRIMORDIAL SKILLS DEVELOPED BY OUR FOREBEARS. EVERY GEOGRAPHICAL AREA INHABITED BY MAN PROVIDED TOOLS FOR SURVIVAL. THE UTILIZATION OF A

SITE REQUIRED INTIMATE KNOWLEDGE OF THAT AREA. KEEN OBSERVATION ALLOWED MAN TO BECOME A SUCCESSFUL EXPLOITER OF THE NATURAL WORLD.

TEACHING SKILLS OF FLINT KNAPPING, CORD MAKING AND FIRE-BY-FRICTION ARE VALUED BECAUSE THEY ARE ELEMENTARY, YET VITAL. ALTHOUGH SEEMINGLY MYSTERIOUS ARTS, THEY ARE EASILY TAUGHT AND ARE AN EFFECTIVE WAY TO FOCUS GROUP ATTENTION. IN OUR ECONOMICALLY UNSTABLE TIMES, MATERIALS CAN BE HAD FOR THE INVESTMENT OF TIME ALONE. WE FIND THAT A NATIVE AMERICAN VIGNETTE IS CONDUCIVE TO A PARTICIPANT'S ABILITY TO RELATE THE PAST TO PRESENT SURROUNDINGS. HOWEVER, MOST ANCIENT CULTURES CAN BE RELEVENT TO THE DISCUSSION OF THESE CRAFTS.

TODAY, INSULATED AS PEOPLE ARE FROM THE NATURAL ENVIRONMENT, INTERPRETERS MUST SEEK COMMON GROUND FOR MEANINGFUL INTERACTION WITH VISITORS. IN ADDITION, SYNTHESIS OF PROGRAM CONTENT OFTEN LEADS TO PERSONAL RE-EVALUATION OF LAND ETHICS. EXPOSURE TO SURVIVAL SKILLS, CRAFTS, ETHNOBOTANY AND AN IMMERSION IN DAILY LIFEWAYS IS LACED WITH DISCUSSION ABOUT THE DEPENDENCE OF MAN ON RAW MATERIALS OFFERED BY THE NATURAL SURROUNDINGS.

COOK BOOK

RECIPE: FLINT KNAPPING

INGREDIENTS:
1) FLINT NODE-OR OBSIDIAN, CHERT OR RHYOLITE
2) BASALT BATON-FOR STRIKING OUT A FLAKE FROM THE LARGE STONE NODE AND INITIAL ROUGHING
3) DEER ANTLER
4) LEATHER PAD-HAND PROTECTION
5) GOGGLES-EYE PROTECTION
6) PECKING STONE-TO REFINE APPROX. SHAPE AND SIZE

SELECT A NODE OR NODULE OF FLINT TWICE THE SIZE OF YOUR FIST. STRIKE IT SOUNDLY WITH A BASALT BATON NEAR A NARROW END. IF DONE PROPERLY, A PIECE WILL BREAK OFF AND LEAVE A FLAT "WORKING FACE". THE FACE WILL BECOME THE TOP OF THE NODE. NEXT, STRIKE DOWNWARD NEAR THE EDGE OF THE WORKING FACE, BREAKING OFF A THIN SLICE OF STONE. THIS SLICE IS CALLED A "FLAKE". A LARGE, THIN FLAKE OF UNIFORM THICKNESS IS BEST. WITH A PECKING STONE, BEGIN TO ROUGH OUT THE SHAPE OF THE TOOL BY TAPPING ALONG IT'S EDGES, BOTH SIDES AND BOTTOM. AFTER REACHING THE APPROXIMATE SHAPE, THE POINTED TIP OF AN ANTLER IS USED TO GIVE THE TOOL IT'S FINAL SHAPE AND CUTTING EDGE. A LEATHER PAD IS ALWAYS USED IN THIS FINAL STEP AS HAND PROTECTION. HOLD THE TOOL BETWEEN YOUR FINGERTIPS AND PALM. USE THAT LEATHER PAD TOO, ESPECIALLY WITH OBSIDIAN. WITH THE ANTLER TIP TOUCHING THE TOOL, CHIP AWAY SMALL WASTE FLAKES BY APPLYING PRESSURE ON THE TOOL'S EDGE. THIS MOTION IS A PUSH RATHER THAN A STRIKE, AS USED IN EARLIER STEPS. SPACE DOES NOT PERMIT A LENGTHLY DESCRIPTION OF THIS TECHNIQUE. FOR MORE DETAILS AND ILLUSTRATIONS, SEE TIME/LIFE BOOKS AND OLSEN IN THE BIBLIOGRAPHY.

RECIPE: CORDAGE

INGREDIENTS: 1) SAPLING-1" IN DIAMETER, FREE OF KNOTS
BASSWOOD,CEDAR OR ASPEN
2) PERENNIALS-DOGBANE,NETTLES OR HEMP
3) ANIMAL SINEW-DEER, BUFFALO, HORSE OR ANY OTHER
COOPERATIVE MEGAFAUNA.

THE MOST DIFFICULT PART OF CORDAGE MAKING IS GATHERING AND PREPARING THE FIBERS. EACH PLANT GIVES UP FIBERS IN IT'S OWN WAY. THIS SKILL CAN BE DEVELOPED ONLY THROUGH EXPERIMENTATION AND PRACTICE. IN WOODY PLANTS, THE LIVE CAMBIUM LAYER MAKES THE BEST CORDAGE. THE FIBERS HAVING BEEN SECURED, BEGIN BY ROLLING TWO SEPARATE STRANDS OF FIBER ON YOUR THIGH, AWAY FROM YOUR BODY, IN A CLOCKWISE ROTATION. NEXT TIE THE STRANDS TOGETHER AT ONE END. CONTINUE BY ROLLING EACH STRANDSEPARATELY ON YOUR THIGH UNTIL 12" OF EACH STRAND IS TIGHTLY TWISTED. THESE STRANDS WILL EVENTUALLY MAKE A 2-PLY CORD. HOLD ONE STRAND IN YOUR MOUTH AND ONE IN YOUR LEFT HAND TO PREVENT UNRAVELING. WITH RIGHT HAND, GO BACK TO THE KNOT THAT JOINS THE TWO STRANDS AND TURN THEM IN A COUNTER-CLOCKWISE ROTATION. AS YOU NEAR THE END OF THE STRAND, FEED MORE FIBERS AND REPEAT THE ENTIRE PROCESS. FOR DIAGRAMS, SEE OLSEN AND MAILS IN THE BIBLIOGRAPHY.

RECIPE: FIRE-BY-FRICTION

INGREDIENTS: 1) PALMSTONE-CIRCULAR HEMI-SPHERE, CREEK OR RIVER STONE WITH A SMALL SHALLOW HOLE ON THE FLAT SIDE.
2) BOW-24" IN LENGTH...OAK HICKORY OR WALNUT, BUT NOT TOO LIMBER.
3) BOW STRING-SINEW, BASSWOOD CORD OR LEATHER THONG
4) SPINDLE OR DRILL-ASPEN , COTTONWOOD, TULIP TREE, SOFT MAPLE, WILLOW. DON'T USE RESINOUS WOODS.
5) FIRE BOARD-THE SOFTEST WOOD OF ALL. IT CAN BE THE SAME AS THE DRILL. SOFT WOOD ALLOWS YOU TO COLLECT ENOUGH CHARCOAL BY GRINDING DOWN ENOUGH OF THE FIRE BOARD ITSELF. THE CHARCOAL WILL IN TURN , IGNITE THE TINDER.

SEE OLSEN AND MAILS IN THE BIBLIOGRAPHY FOR ILLUSTRATIONS

<u>ARTIFACT INTERPRETATION THROUGH PROVOCATION AND CONJECTURE...AN EXAMPLE</u>

ORIGINAL AND REPRODUCTION ARTIFACTS ARE EXCELLENT VEHICLES TO PROD IMAGINATIONS AND EXCITE ATTENTION. HOWEVER, CAUTION IS ADVISED WHEN USING ORIGINAL PIECES. PRIVATE COLLECTING ON FEDERAL LAND IS ILLEGAL. MANY INSTITUTIONS IN POSSISSION OF ARTIFACTS DO NOT PERMIT THEIR USE DURING PROGRAMS FOR FEAR OF DISTURBING THE HISTORICAL AND OFTEN THE PHYSICAL INTEGRITY OF THE SPECIMEN. REPRODUCTIONS THEREFORE, ARE SOMETIMES MORE VALUABLE FOR THEIR "HANDS-ON" APPEAL. REMEMBER TO BE ACCURATE IN YOUR REPRESENTATIONS.

DURING OUR PRESENTATION AT THE 1980 A.I.N. NATIONAL WORKSHOP, WE WILL USE A REPRODUCTION BOW AND QUIVER. FOLLOWING, IS A LIST OF QUESTIONS WHICH WILL CAUSE A TWO-WAY COMMUNICATION BETWEEN PROGRAM PARTICIPANTS AND THE INTERPRETER.

1) WHO DO YOU THINK USED THE BOW?
2) CAN YOU DETERMINE A TIME LINE FOR THE PIECE BY EXAMINING THE ARROWHEADS?
3) WHAT SIZE PERSON USED THIS BOW?
4) DO YOU KNOW THE NAME OF THE WOOD WHICH WAS USED TO MAKE THE BOW? THE ARROWS?
5) WHAT WAS THE QUARRY WHEN THIS BOW WAS USED?
6) CAN YOU DESCRIBE THE MODE OF HUNTING?
7) HOW WAS THE QUIVER CARRIED?
8) WHY IS THE QUIVER STRAP SO LONG?
9) WHAT DO YOU NOTICE ABOUT THE FLETCHING ON THE ARROWS?
10) WHAT DO YOU INTERPRET FROM THE DECORATIONS OF THE QUIVER?
11) CAN THE ARTWORK IMPLY FEATURES OF THE CULTURE?
12) NOTICE THE RAWHIDE ON THE FACE OF THE BOW. WHY IS IT THERE?

ADDITIONAL POINTS TO PONDER...

* WHAT IF YOU RAN OUT OF FLINT OR TOOL MATERIAL OR THERE WAS NONE AVAILABLE TO YOUR HOME REGION? NAME YOUR OPTIONS.
* IF A FRIEND IN YOUR VILLAGE OR NEIGHBORING COMMUNITY POSSESSED THE ABILITY TO MAKE FINE STONE TOOLS AND BETTER POTTERY BETTER THAN YOU, AND AT A FASTER RATE...WHAT COULD YOU ARRANGE?
* WHAT CAME FIRST , THE FIBER CORD OR THE SINEW CORD?
* WHY DID THE EUROPEANS READILY TRADE MUZZLE LOADING GUNS TO THE NATIVE AMERICANS BETWEEN 1600 AND 1700?
* WHY WOULD EVERGREEN WOOD BE UNSUITABLE FOR FIRE-BY-FRICTION USE?
* HOW DOES CORDAGE MAKING SHOW THE NEED FOR COOPERATION ?
* WHY WAS A STEEL FLINT STRIKER STILL USED LONG AFTER THE INVENTION OF MATCHES?

CONCLUSION

ONCE A CONTEMPORARY PERSON LEARNS AND APPRECIATES WHAT THE NATURAL WORLD CAN PROVIDE, HE OR SHE CAN REACH AN EMPATHY WITH ANCIENT PEOPLES, AND THEIR PERCEPTION OF THE ENVIRONMENT.

THERE IS A STRONG TENDENCY FOR PEOPLE TO VIEW HISTORY AND MAKE JUDGEMENTS ABOUT THAT HISTORY. THESE JUDGEMENTS ARE OFTEN BIASED DUE TO INCORRECT DOCUMENTATION, MISREPRESENTATION BY THE MEDIA AND CULTURAL ETHNOCENTRISM. OUR GOAL AS INTERPRETERS SHOULD BE ACCURATE PORTRAYAL OF THE PAST , LEADING TO ENLIGHTENMENT OF THE PRESENT.

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ADAPTATION THROUGH INTERPRETIVE SERVICE: A COMMITTMENT TO DISABLED PERSONS

Gerald S. Fain Ph.D.

In 1962 Rachel Carson wrote Silent Spring. This world famous best seller brought to the general public a message of environmental concern which in our increasing complex and technological world continues to grow more important.

> The history of life on earth has been a history of interaction between living things and their surroundings. To a large extent, the physical form and the habits of the earth's vegetation and its animal life have been molded by the environment. Considering the whole span of earthly time, the opposit effect, in which life actually modifies its surroundings, has been relatively slight. Only within the moment of time represented by the present century has one species-man-acquired significant power to alter the nature of his world.(1)

Today,we have come to understand that perhaps the greatest challnges in respect to our environmental concern is in understanding this natural process of adaptation with regard to people. It is not only how we attend to air, water, and land that determines our quality of life, but also how we help each other adapt. An understanding of human adaptation, and a committment to basic human dignity and individual responsibility serve as the underlying basis of this paper.

ADAPTATION IN CULTURAL CONTEXT

Just as we have new abilities to effect dramatic changes in our evolving environment we can affect the individual who is struggling to adapt.

The need for our increased understanding and sensitivity to the process of human adaptation is in part a direct result of advances in medical technology. Many of us who today may experience a disability as a consequence of a tramautic accident, will survive only because of new drugs and treatment practices. Children born today with complicated central nervous system disorders, severe orthopedic abnormalities or other potentially life threatening conditions can be expected to live long and productive lives.

People, like all other elements which are part of nature, evolve. However, the evolution of human beings involves a social consciousness which is unique. Because of our abilities to feel, communicate and think as we do, our evolution is characterized by a kind of caring which promotes living, working, and playing in a community which has an order, purpose and direction found nowhere else in the environment. This is particularly true of all post-industrial free societies where in the past century we have found that the single most telling quality of life issue for assessing a free society is concern for non discrimination on the part of the majority toward the minority groups. The stronger the concern, the more free the society as it promotes a supportive climate for the growth and development of each individual. As a

result of this awareness we can better understand how people fit into the environment regardless as to how we look, think, ambulate or communicate. There is no other human service professional with a greater sensitivity to this natural process of adaptation then the interpretive naturalist.

COMMITTMENT TO HUMAN DIGNITY

During the past thirty years Americans have begun to seriously struggle with issues associated with the quality of life for individuals who are disabled. When this is put in the context of our 204 year old nation we can better understand why we don't have immediate and widely accepted answers to these difficult questions. For example, the recent practice of intergrating disabled and non-disabled children into the same classroom is to some, of questionable merit. Whether or not our society will be a better place because of this practice may not be fully understood for many years. However, I for one would not want to live in a society which did not take such questions seriously.

Our ability to identify these issues and struggle with appropriate solutions is an essential exercise for a democratic and free society. It is not a luxury of an affluent country to educate the disabled child but rather central to the survival of the nation. It is predicated upon a committment to human dignity, individual responsibility and collective caring, without which no one would be free.

SOCIAL MANDATE

Since the early 1960's there have been a series of legislative and policy decisions at the federal level, dealing with disabled persons, that have touched all of those in human service delivery. In 1963 the rehabilitation act was signed. These laws provided federal funding of research, training, and demonstration programs directed at improved treatment practices for ill and disabled persons. Among the many programs was the funding of 10 college and university masters degree training curricula in therapeutic recreation. Subsequent amendments to this act, both in 1973 and 1978, have provided funding for the continuation and expansion of full spectrum rehabilitation efforts. Amendments made in 1978, specifically section 504, commonly referred to as the "civil rights for the handicapped" section, prohibits discrimination against persons on the basis of disability. This amendment, more then any other is exemplary of our evolving human values system. Athough this act does not govern the private sector, the impact has been felt across our society providing for expansion of outdoor recreation and education opportunities.

With the enactment of section 504 the American people put into law the most straight forward answer to the question, "What are the rights of the disabled person?" This law clearly states that discrimination against an individual, on the basis of a handicapping condition, is prohibited. While stating the law is easily done, the implementation of the law has at times been difficult. Surely it does not intend that the Appalachian trail be paved for wheelchair access, or that an elevator be installed

in the Grand Cannyon. Rather it is the intent of this law to affirm our belief that human potential and dignity must be viewed with utmost sensitiviity with respect to the individual.

In recent years the awareness paper on recreation prepared for the White House Conference on Handicapped Persons, in 1977, along with with the 1978 Nationwide Outdoor Recreation Plan further support the need for our society to focus on the human rights, and dignity of the disabled person.

Accessibility

In 1968, PL 90-480. , the Architectural Barriers Act was first implemented. Today strengthened standards embodied in the American National Standards Institute, ANSI A117.1, serves as the guidelines for enforcement of this law. In essence all buildings or facilities, built in part or whole with public monies must be accessible to disabled persons. While, the interpretation and enforcement of these laws is somewhat variable, the intention and committment of the public sector to protect and promote equal opportunity for the disabled person is clear. Once we realize that the intention of this law is to make buildings and facilities usable by the disabled person, and that accessibility for the sake of accessibility is an unsound practice, we can better understand why for example nature trails for the blind are not desirable or popular. Just as we have exerted control over the environment, shaping it to conform to our visions, we have unintentionally created structures which limit their use.

Education

PL 94-142, the Education for all Handicapped Children Act of 1975 is of potentially greatest importance because it specifies that children be provided an appropriate education in the least restrictive environment. The focus on children provides hope for future generations which was not possible for the majority of today's adults. Looking ahead we can anticipate that these children with disabilities will grow into adults who will likely assume active roles in adapting the world. During the next thirty years we can expect major changes in our environment. Changes which will be appreciated by an ever increasing proportion of our citizenry.

Practical Application

A grassroots impact, particularly in the outdoor and environmental area has been felt as a direct result of funding from the United States Office of Education, the Bureau of Education for the Handicapped. For example, projects funded within the past three years at the University of Kentucky; Camp Allen, New Hampshire; and Bradford Woods, Indiana, have each attended to the question of the implimentation of the social mandate in the outdoor setting. Along with the practical implimentation question has come intense training education programs at both the preservice and inservice level. These training programs have been funded by the federal government because of the dearth of qualified personnel to impliment the programs needed.

Addressing issues of the child, Nesbitt, et.al., 1972 (2) outlined the nature of questions we have regarding how disabled persons benefit from camping and other outdoor experiences. More recently Shea, 1977 (3) answers these questions by articulating what the benefits, with respect to direct educational gain, can be and how we can most appropriately evaluate such programs.

The federal agency which has today taken a highly visable and responsive position regarding service delivery to disabled persons is the National Park Service. With the creation of a national level position, in January of 1980, designed soley to address the interests of the disabled person, its committment became noteworthy and of particular interest to those involved in interpretive service.

STAFFING

In consideration that all people have individual needs, and that it is the responsibility of the interpretive naturalist to be sensitive to these needs, the vast majority of persons with disabilities should be easily served by existing staff. While this is a general goal, it is not however realistic to expect that all those who provide services will have the desire or ability to acquire the necessary skills demanded of comprehensive program delivery. An adaptive skill such as sign language demands intense and conscientious training. However, the sensitization of all providers to the needs of the hearing impaired or deaf person should be expected of all staff. Therefore, the need for preservice and inservice training of staff qualified in program provision for persons with severe disabilities will continue.

Preparing staff for the challenging process of adapting service delivery to disabled persons can be organized into three areas.

Multiple Mode Communication is primarily concerned with persons who are deaf or hearing impaired. Since communication is of central concern to the interpretive naturalist, multiple mode communication, including the use of visual aids, should be part of most personnel preparation programs.

Multiple Means of Locomotion deals primarily with accessibility to buildings and facilities. Knowledge of basic design criteria, as outlined by the ANSI standards should be studied by all planning staff. However, being able to safely transfer an individual from a wheelchair into a canoe for example, requires special training.

Variable Levels Of Adaptive Behavior focusses on the needs of individuals who have impaired mental or emotional function. These individuals may demonstrate poor judgement and require close or constant attention. Here the initial concern may be centered around basic safety needs which again will often demand special training and experience.

The actual strategies and techniques designed for preparing staff to carry this mission forward will be determined by the nature of the populations and programs provided.

CONCLUSIONS

In the coming years the role of the interpretive naturalist in helping other human service providers better understanding the nature of human adaptation is potentially of great significance. This is especially true when we review our work with disabled persons. There are no more effective lessons learned then those gleaned from association with these adaptive programs.

The investment we make in trying to understand this process has long term benifits. It is in fact not simply a trend characterizing contemporary service delivery, it is its essence. The days of providing for the majority at the expense of the minority are gone. The struggle facing us for tomorrow is to insure that the needs of all constituents be considered. When we accept the realization that each of us will, over the course of our lifetimes, have to adapt to many unpredicted changes it becomes clear that this is the most humane, environmentally sound and realistic of all positions.

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HISTORIC SITE INTERPRETATION FOR VISUALLY IMPAIRED VISITORS

Sam A. Lollar
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INTERPRETATION AND ACCESSIBILITY

There are an estimated six million legally blind people in this country (2). Although comprising a disproportionately small percentage of interpretive site visitors (17), programs must be accessible to them (13). Section 504 of the 1973 Rehabilitation Act specifically states that all federally funded programs must be accessible, regardless of the number of handicapped participants currently in existence. This encompasses most interpretive sites.

Since transportation is a problem for any handicapped person, this person is unlikely to go to a program that will not be able to accommodate his or her needs (12). If interpretation agencies make their programs accessible, then more handicapped people will be willing to visit interpretive areas. Eventually, the number of handicapped visitors will increase, and the percentage of these visitors will be more representative of the total population (12).

ACCESSIBILITY AT HISTORIC SITES

Making historic site programs accessible to visually impaired people is problematical. Guide dogs and long canes could damage historic artifacts. Braille labelling could intrude on the historical accuracy of a site, as could kick plates or hand rails. Redoing stairways to conform to current guidelines to accommodate visually impaired people (7), could further erode an area's historic accuracy. Allowing large numbers of people to handle fragile artifacts is totally against current preservationist practices. Thus, the historic site manager may want to institute a policy of separate tours, or segregated "Braille trails," in an effort to accommodate visually impaired visitors. However, such practices are both pointless and objectionable to these participants. These people rarely travel alone; generally, they are in the company of sighted companions (12), so trails with Braille signs would be without purpose: the travelling companion could read the written sign for the impaired visitor.

Segregation

The idea of separate tours is offensive, serving

more the needs of management than those of the visitor. Such segregation stresses a visually impaired person's inability, not his abilities (1,3). Since visually impaired people are more like sighted people than they are different, segregation by one inability is absurd. Segregating by special tour stereotypes all visually impaired people as being totally without sight, implying a state of helplessness in sighted society (1,4), which is false. Of the more than six million blind people in America, only 450,000 are totally without sight (9), and very few of them could be considered helpless. The historic site interpreter should anticipate a wide range of visually impaired people: from those who are completely blind, to those with a high degree of residual vision. Their abilities and interests are as diverse as is any groups'.

ACCESSIBILITY: WHAT IS REQUIRED

A careful understanding of the 1973 Rehabilitation Act and of the objectives of visually impaired visitors, will clarify what is needed to make programs at a historic site accessible. Program accessibility does not require the elimination of all architectural barriers, nor does it require that every building or every part of a building be accessible (3,6). Rather, enough buildings or parts of buildings must be accessible so as to insure that the handicapped person can participate in the program (6). The Act emphasizes the use of nonstructural changes to assure accessibility. A barrier-free environment is not the goal (3), program accessibility is (6).

The historic site manager might ask how to assure program accessibility without instituting architectural modifications. If the program is not accessible, changing the building is not likely to change the program's accessibility. The program itself will require changes.

Before a program can be changed, it is necessary to understand the objectives of visually impaired visitors who tour historic sites, just as it is essential to understand the objectives of any visitor (14).

Visitor Objectives

Currently, the majority of these visitors are members of organized group outings from rehabilitation agencies (12). All visually impaired people spend some part of their lives in rehabilitation institutions (11). Such institutions conduct outings, frequently to interpretive settings. However, the visit motivation is not purely educational. As has been shown in previous studies, people perceive the goal of interpretation to be educa-

tional, to provide entertainment, and to provide a social environment (10, 16). The reason rehabilitation agencies conduct outings is for this socializing aspect (15), as it is essential for an agency's clientele to practice social interaction with sighted society. The interpretive program at a historic site can provide the opportunity to interact socially.

If the site manager assumes organized groups are touring the site just to become better informed about its story, and provides segregated tours to enable them to become fully informed, then the manager is ignoring the primary objective of the organized outing. Social interaction with sighted members of society cannot occur if the visually impaired group is segregated on special tours. However well intentioned, these special tours fall short of providing meaningful experiences for visually impaired visitors (1).

Occasionally, a visually impaired person will visit a site with his or her family, anticipating a generally dull experience. This person could be pleasantly surprised by an interpreter who follows the basic principles of interpretation and gets all visitors involved, including the visually impaired participant. If the interpreter has some artifacts handy to pass around to the visitors, the impaired person can haptically perceive them (8). Suddenly, an anticipated dull tour can become meaningful, as the impaired visitor's objective of being included with the group is realized.

Preparation is the key. The interpreter should be prepared with excellent interpretive skills, and a few props. A knowledge of blindness and what it means is also valuable. By being prepared in this manner, the interpreter could provide a program that meets the objectives of all visitors, and program accessibility could result.

Making the Site Accessible

For either group outings or the lone traveller, the mode of providing accessibility is the same: provide acceptable interpretive presentations which can satisfy all visitors, including those who are visually impaired. In this case, acceptability equals accessibility.

The visually impaired person, with no accompanying mobility impairments, can go through any site with the aid of a travelling companion or staff guide (12). Dogs and long canes can be left behind; handrails and kickplates can be omitted. The companion can read labels and texts: Braille signing is not needed.

Those artifacts at historic sites that are sturdy enough to withstand repeated handling should be made

available. If a visually impaired person is on a tour, these objects can be passed around for everyone to examine, including the impaired person.

If artworks are important to the site's story, they should be described to the audience. It should be explained clearly what is artistically represented (5), and why it is important to the site's story. The artist may have painted with oils, but the interpreter should paint with ideas. These ideas should be as clear to the visually impaired visitors as is the impression of the artwork to the sighted observer.

ACCEPTABILITY EQUALS ACCESSIBILITY

The dilemma of providing accessible interpretive programs for impaired people at historic sites becomes much less awesome when the problem is examined carefully. Good interpretive efforts, attuned to the objectives of the visually impaired visitor, will result in a program acceptable to this visitor. If acceptable, it becomes accessible. The historic site manager would thus be wise to reevaluate his interpretive programs in general, rather than merely to plan for architectural modifications that might insure accessibility to the building, but not necessarily to the program.

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TWO APPROACHES TO INTEGRATING NATURAL AND CULTURAL STUDIES IN THE FLORIDA KEYS

by

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INTRODUCTION

Realizing the educational value of the maritime environment of Big Pine Key and the nearby shallow-water marine communities of the Florida Keys, Ms. Irene Hooper and colleagues founded Seacamp Association in 1966 as a private, non-profit scientific and educational organization. At present, the summer Seacamp program involves 60 staff members from over 20 different states. They are predominantly college graduates, many of whom are working on advanced degrees in various marine science and related environmental studies programs. Seasonally, approximately 300 campers arrive from over 30 states and several foreign countries to participate in the Seacamp program.

In 1969, Newfound Harbor Marine Institute (NHMI) was formed to provide marine environmental experiences during the winter months to school groups ranging from grade 4 through college level. At present, 17,000 resident student-days of environmental programs have been taught to groups attending from a variety of states. In addition, conferences, workshops, and curriculum development programs have been held for inservice teachers and other select groups as part of NHMI's public outreach program. Staffing includes several professionals who have been involved with NHMI and Seacamp for a number of years in ongoing education and research efforts. Each year this staff is supplemented with science, humanities, and environmental education interns as part of an inhouse teacher training program. Seacamp/NHMI is the only full service marine environmental facility in the Florida Keys.

In 1978, new courses in underwater archaeology and Indian culture added a maritime social studies component to the already well established marine science curriculum. For the last three years an effort has been made to develop a course of study which emphasizes the interrelationships between the cultural and natural history of the Florida Keys.

Considerable progress has now been made in developing an experimental field program focusing on human behavior patterns as an important function of the total physical environment. With funding assistance from the National Endowment For the Humanities and several private foundations, new teaching potentials in environmental education are being realized.[2]

This paper will briefly examine two different approaches which are being used at Seacamp/NHMI to develop an interdisciplinary curriculum involving both the humanities and the natural sciences. The two approaches will be referred to as the Modular Approach and the Integrative Approach. The Modular Approach utilizes units drawn from specific disciplines by simply compiling these units into a flexible, thematic program. The Integrative Approach utilizes activities, i.e. unit components, in which natural and cultural aspects of a selected topic are blended throughout the activity structure. These activities may in turn be compiled into units and larger programs emphasizing natural and cultural interrelationships.

MODULAR ENVIRONMENTAL APPROACH

During the 1979 winter session, the NHMI staff concentrated on developing new modular units in Marine Science, Maritime Social Studies, and Coastal Zone Management. The goal was to construct a curriculum comprising four three-hour teaching modules drawn from all three areas of study. The rationale was to create an environmental program with enough flexibility to allow for adjustments in the teaching content depending upon the requests of individual school groups. A three-day resident marine environmental program was formulated, consisting of the units outlined as follows:

Module I: Marine Science

The marine science program was structured to involve students in the methods of discovery, interpretation and investigation of nearshore hard and soft coral communities, shallow water communities, mangrove communities, shorelines, tidepools, beaches and subtropical terrestrial environments. Evening programs included slide shows, discussions, laboratory investigations, night hikes, aquarium management, and campfires.

Module II: Maritime Social Studies

A humanities program was formulated to focus on the interrelationship between people and their coastal environment. Teaching components were designed to explore: 1) the ways in which past human groups, including Indians, seafarers and homesteaders have adapted to living in the Florida Keys; 2) the lifestyles of members of these groups; 3) available resources on the islands and in surrounding shallow waters; and 4) the use of these marine resources. Maritime folklore activities were planned as evening programs which would expose the students to storytelling and maritime songs.

Module III: Coastal Zone Management

This program component focused on the coastal regions of South Florida, and the political, economic and ecological factors involved in the development of these coastal regions. The goals of this modular unit were to both teach how different human groups have altered

the coastal environment through time,as well as how changes in the coastal environment such as those due to hurricanes, flooding, and erosion have affected coastal human settlements. An objective of developed teaching activities was to demonstrate regional user-conflict problems arising from the growing demands placed on coastal resources by polarized user populations including homeowners, various industries and environmentally aware citizens. Identification of coastal resources, examination of ecological system components, and investigation of both political processes and problems, were used to familiarize participants with basic information and concepts. Historical case studies and role playing strategies were further used to assist participants in identifying alternatives which citizens may choose in participating in the future management of both cultural and natural resources within the coastal zone.

INTEGRATED ENVIRONMENTAL APPROACH

The Seacamp summer program has provided the best opportunity to develop, teach and pilot test outdoor learning techniques which use the study of cultural and natural environments within an integrated course or unit. Four distinct units were developed and pilot tested during the summer of 1980 at Seacamp.

Integration I: Humanities and the Sea

The central thrust in developing the first integrative unit was centered on a "Humanities and the Sea" curriculum. The underlying theme of this teaching program stated that before we can learn about cultural systems and how various human groups adapted to living along the coast, we must first understand as much as we can about natural ecosystems.

Over the last three years, teaching components have been developed in Marine Archaeology, Maritime History, Nautical Science, and Maritime Folk Culture, with a strong emphasis on relationships between humans and immediate environments. An attempt is being made to provide students with a more comprehensive understanding of two basic concepts:

1) To what extent have different human groups through time adapted to living on and near the sea along the Florida Keys?
2) To what extent have these groups exploited the natural resources within the coastal zone, and how has this impacted the coastline?

The 1980 Seacamp program included two courses which integrated archaeology with a blend of some natural science. A class was offered in "Museum Studies." Students taking this class learned about the different types of information which can be gleaned from artifacts and biological specimens. Emphasis was placed on how ecological and archaeological information can be used jointly in piecing together evidence of how Indians used their natural environment along the

South Florida coast. The second class, "Coastal Archaeology" utilized activities which demonstrate the types of information which can be obtained from artifacts in reconstructing past lifestyles. Information on the ecology of the areas visited supplemented these analyses.

Integration II: Environmental Interpretation Under Sail

During the summer of 1980, a thematic blend of cultural and natural history was the central program focus of Seacamp's Cruise Program. For the previous two summers, Seacamp's Cruise has been one of the most popular educational components. This year the Cruise Program has been revised to provide learning opportunities with the goal of examining the interrelationships between maritime cultural traditions and natural ecosystems of the Florida Keys. This new program had the following objectives:

1) To each students seafaring traditions and seamanship skills while under sail.
2) To teach students how 19th century settlers made a living using the natural resources available in the Florida Keys, including the influence of the natural environment on homesteading lifestyles.
3) To teach students techniques in reliable scientific observation for interpreting natural and cultural marine phenomena.

The program was organized by diving the twelve student participants into two groups. One group departed Seacamp on a trimaran and sailed south along the Gulf Stream, past Key West, and into the Gulf of Mexico. While under sail for eight days they learned what life at sea is like and what has to be done to sail a boat. They made their way along the lower Florida Keys into an area only accessible by boat, known as the "Back Country."[3]

The second group went by power boat directly to two houseboats in the "Back Country." From this base camp, the group explored the area in small sailboats and motorized skiffs. They experienced living on and near the sea in much the same way homesteaders did over a hundred years ago. This "living history" approach was geared towards giving the students practical experience of what it must have been like to live in the "Back Country" during the late 19th century. Students learned traditional ways of living off the sea, including how to recognize commercial sponges, how to gather, clean and prepare a sponge for use; different techniques for catching shrimp, how to catch lobsters with a bully net, and how to keep them alive for market. They tried their hand at building pit cisterns for catching rain water. While on houseboats, students also searched for old homestaed sites known to date from the 1870s located on several nearby keys. Site maps and sketches were prepared as a start towards compiling a maritime cultural inventory of this region.

At the end of eight days the groups switched with one another. This allowed every student to experience both the sailing and house-

boat components. Throughout the program, students were involved with observing and measuring scientific phenomena, (tides, currents, weather), while collecting biological specimens for a comparison study of the near-shore marine environments along the Gulf Stream with near-shore environments along the Gulf of Mexico side. In the ships' journals, they were encouraged to record the scientific data and general observations of environmental phenomena.

Integration III: "Man and the Environment"

The principal course goal of "Man and the Environment" was the encouragement of students to consider environmental problems from a systematic perspective. Students were provided with both the scientific framework of environmental analysis and the principles of socio-economic analysis. Thisunit stressed that it was a self-defeating process to observe human and natural systems as independently operating entities. Sound planning strategies were presented as those which considered the needs and limitations of both environmental and economic factors in regional development. The class consisted of four major components which were illustrated by case studies in the Florida Keys:

1) ANALYSIS OF THE "SYSTEM"
The importance of the shallow bay region as part of a much larger ecosystem was demonstrated, emphasizing local short-sightedness in environmental planning.

2) MEASURES OF ENVIRONMENTAL DISRUPTION & SOCIOECONOMIC BENEFIT
Students were asked to compare different boat canals using biological health (species diversity, etc.) and public benefit (nature of boat traffic, etc.) as criteria, ultimately leading up to the question of "tradeoffs."

3) USE AND MANAGEMENT OF NATURAL RESOURCES
Activities focused upon the impact of various user groups on a natural coral reef environment, including commercial and sport fishing, sport diving, and specimen collecting.

4) MAN'S ALTERATION OF THE NATURAL ENVIRONMENT FOR HIS NEEDS
Topics including mosquito control, dredge and fill, construction, and canals point to the question of determining a healthy human carrying capacity for the region.

Throughout the course, the students also participated in a Coastal Zone Management simulation game, "Paradise Key."[4] Students were broken into small groups to research and submit land use plan proposals for a small key. Possible alternate uses have included recreation, residential, preservation, industry, education, and governmental use. Final presentations to the "Board of County Commissioners" used role-playing to strengthen planning skills and presented the reality of the "tradeoff" between conflicting user groups wishing to utilize non-renewable resources, both cultural and natural.

Integration IV: Proposed Looe Key Management Studies

The following proposed plan of studies relates to Looe Key, a spur and groove formation coral reef located approximately six miles from Seacamp/NHMI. The goal for such a projected plan of studies is participation in the protection and management of marine cultural and natural resources through educational acitivity. For years, the staff of both Seacamp and NHMI have utilized Looe Key as an invaluable research and teaching resource, and have voiced active interest in the proposed establishment at Looe Key as a marine sanctuary. The National Oceanic and Atmospheric Administration's (NOAA) goals for the management of the proposed Looe Sanctuary closely parallel Seacamp/NHMI educational goals, and include protection, research, and public interpretation - education of both natural and cultural resources.[5]

Thus the current marine sanctuary proposal, and controversy over it offers a unique opportunity to develop Integrated Environmental Studies Units and a program which follow Seacamp/NHMI goals, proposed Marine Sanctuary Management goals, and which span the hierarchy of the Goals for Curriculum Development in Environmental Education.[6] In light of this a new class entitled "Issues and Values of Looe Key" was offered during the summer program. It expanded upon discovery and awareness; ecology and related marine science foundation objectives already present in other classes to include a study of needs, issues and values related to Looe as a multiple use resource and focus of user-conflict. Investigations centered upon selected resources in conflict from both the actual resources and select user groups perspectives. A role playing game entitled the "Looe Key Game" was utilized as a synthesis tool.

Future investigations are anticipated to further knowledge of both the resource and users, contributing useful background material to management procedures, and interpretive planning. Ongoing dialogue and involvement between Seacamp/NHMI staff and the Marine Sanctuary Program managing agency should further develop, crossing the bonds of ecomanagement, interpretation, public communication, and other modes of environmental action.

CONCLUSION

This paper represents two approaches currently being developed and used at Seacamp/NHMI concerning the integration of natural and cultural aspects of environmental studies. The three part Modular Approach used in NHMI's program includes a theoretical blend of Marine Science, Maritime Social Studies, and Coastal Zone Management. The Integrated Approach was utilized during Seacamp's 1980 summer program with each of the four units expecting further development during the 1980-81 school year. Both approaches seem to have worked well for the respective programs. Yet further pilot teaching of both approaches is necessary for obtaining feedback from students and teachers as part of the ongoing program evaluation and development.

FOOTNOTES

1 We would like to acknowledge the following people who have also contributed to this paper: Irene Hooper, Executive Director, Seacamp/NHMI; Sharon Thomas, Director of Marine Science, Seacamp 1980; Kristie Seaman, NHMI Instructor; Steven R. Dent, Science Instructor, Seacamp 1980; Kathy Esty, Science Instructor, Seacamp 1980; Margaret Fuller, Typist; Shirley Curtin, Typist.

2 Mathewson, R. Duncan - 1980 "Maritime Cultural Studies: Recent Developments from the Florida Keys." First Florida Maritime Heritage Conference. Tampa, Florida, (March 22-23)

3 "Back Country" refers to an unspoiled area of undeveloped island flats, shoals, and coastal waters located off to the Gulf side of the lower Florida Keys.

4 "Paradise Key" was adapted by Bill Becker, Assistant Director, Newfound Harbor Marine Institute, Big Pine Key, Florida, from "A Lesson Plan for a Land Use Simulation Game - Centerplace City," utilized by the U.S. Forest Service, who in turn adapted it with permission from the May 1970 Journal of Geography article, "A Land Use Alternatives Model for Upper Elementary Environmental Education" by Dennis Asmussen and Richard Cole, University of Washington. The game has since been expanded by David E. Guggenheim, Seacamp Instructor, from a two-hour format to a two-week program.

5 NOAA: Department of Commerce. Draft Environmental Impact Statement: Proposed Looe Key National Marine Sanctuary. (April, 1980), pp. 3-5, 19.

6 Hungerford, H., R.B. Peyton and R. Wilky, "Goals for Curriculum Development in Environmental Education, 1978". This hierarchial scheme of goals was validated by a group of nationally recognized environmental educators against the Aims and Goals for Environmental Education established at the Intergovernment Conference on Environmental Education held in Thilisi, U.S.S.R. in 1977. The hierarchy includes:

Level 1: Ecological Foundation
Level 2: Conceptual Awareness Development: Issues and Values
Level 3: Investigation and Evaluation
Level 4: Environmental Action Skills Development: Training and Application.

In addition, a hypothesized level preceding the hierarchy stresses the development of environmental appreciation, awareness and sensitivity.

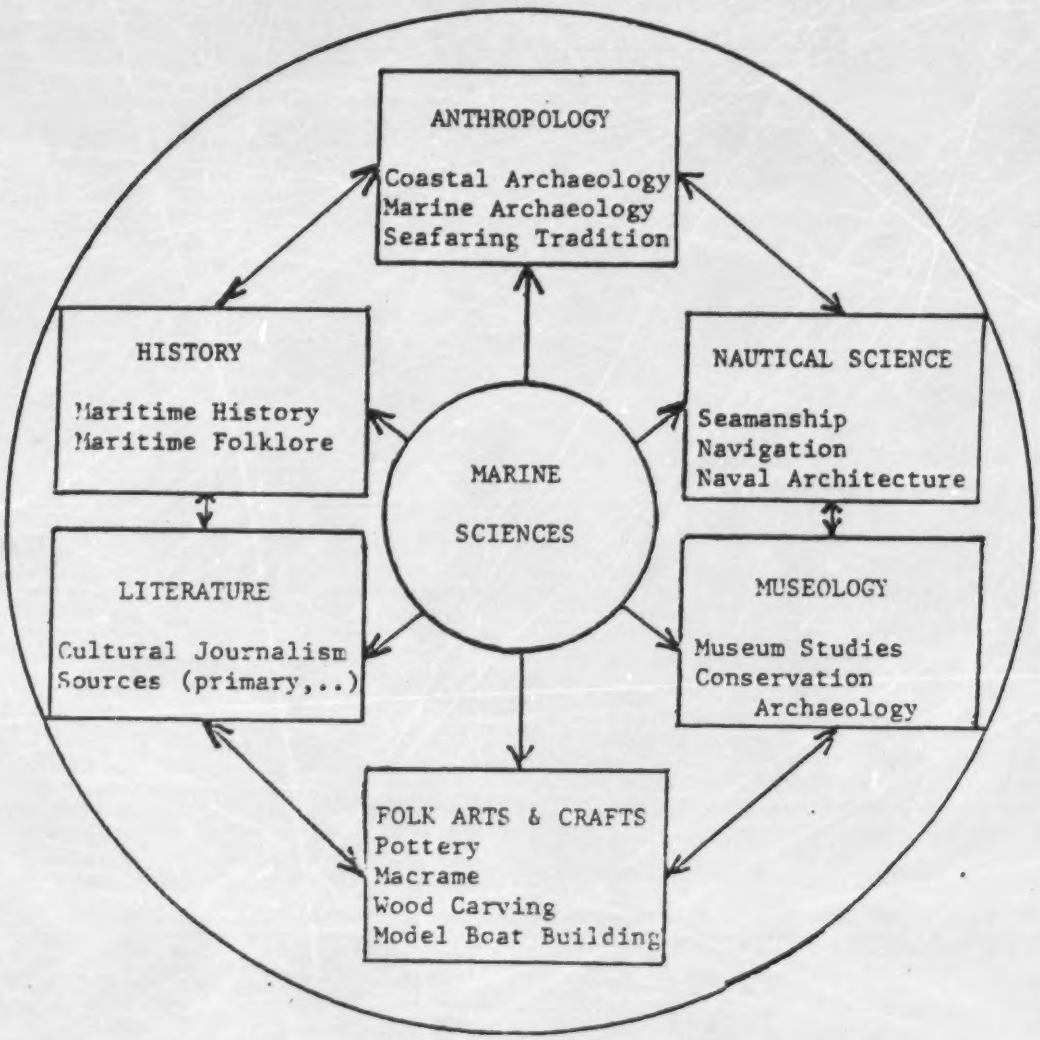
7 Adapted from Ellison, Gail. "Teaching Marine Studies When You Don't Know a Snype from a Sea Cucumber." Seaworld. (Fall 1977), p. 34.

8 Cougheron, Milton. "Some General Problems in Diffusion from the Perspective of the Theory of Social Actions" in Diffusion Research Needs, North Central Research Bulletin 186, Missouri Agricultural Experimental Station, Columbia, Missouri 1968.

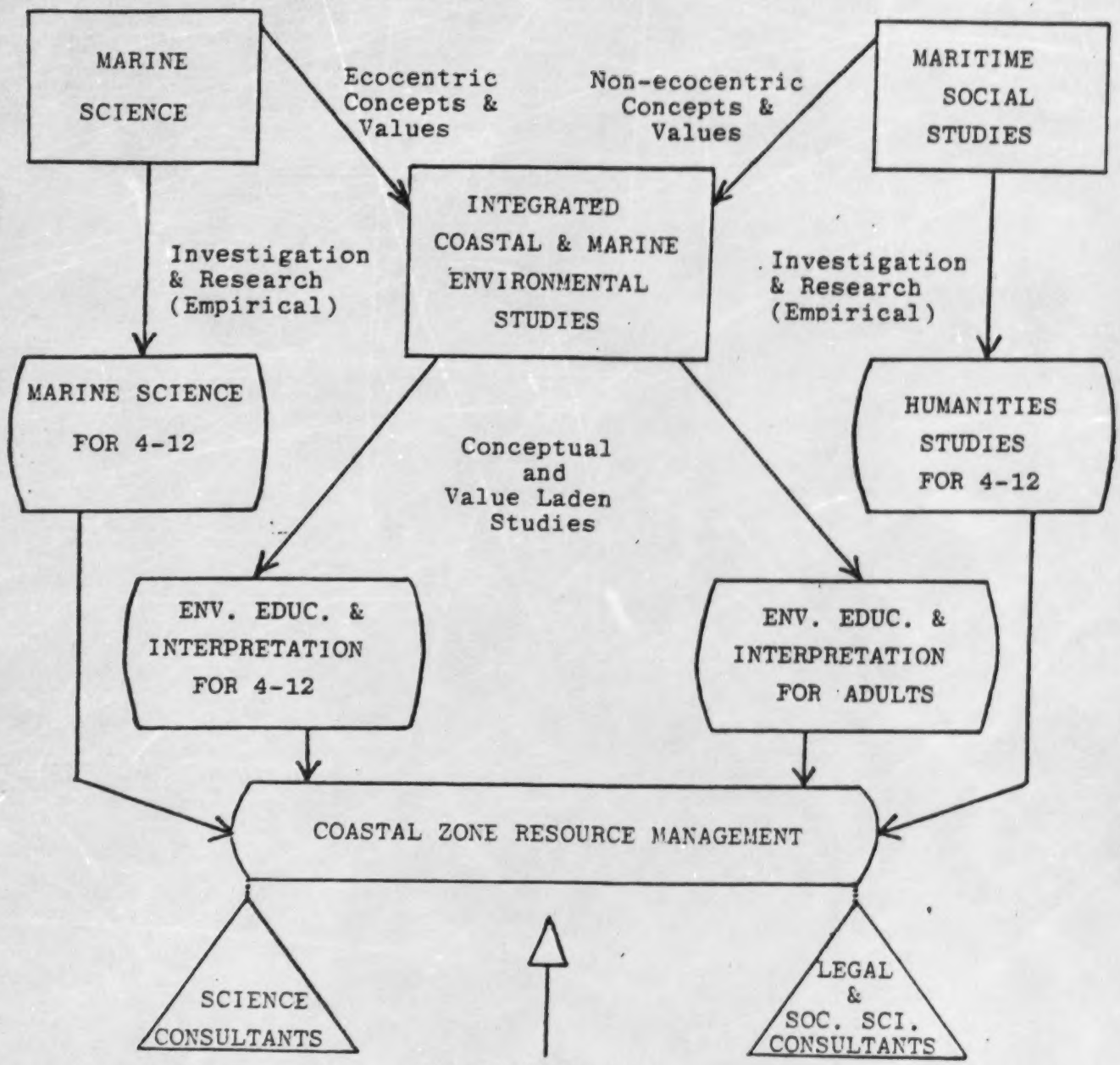
9 Ibid, p. 134

10 Tilden, Freeman. Interpreting Our Heritage. Chapel Hill, NC: University of North Carolina Press, 1957, p. 9.

APPENDIX 1: A DIAGRAM OF THE MARITIME SOCIAL STUDIES PROGRAM AT AT SEACAMP/NHMI[7]



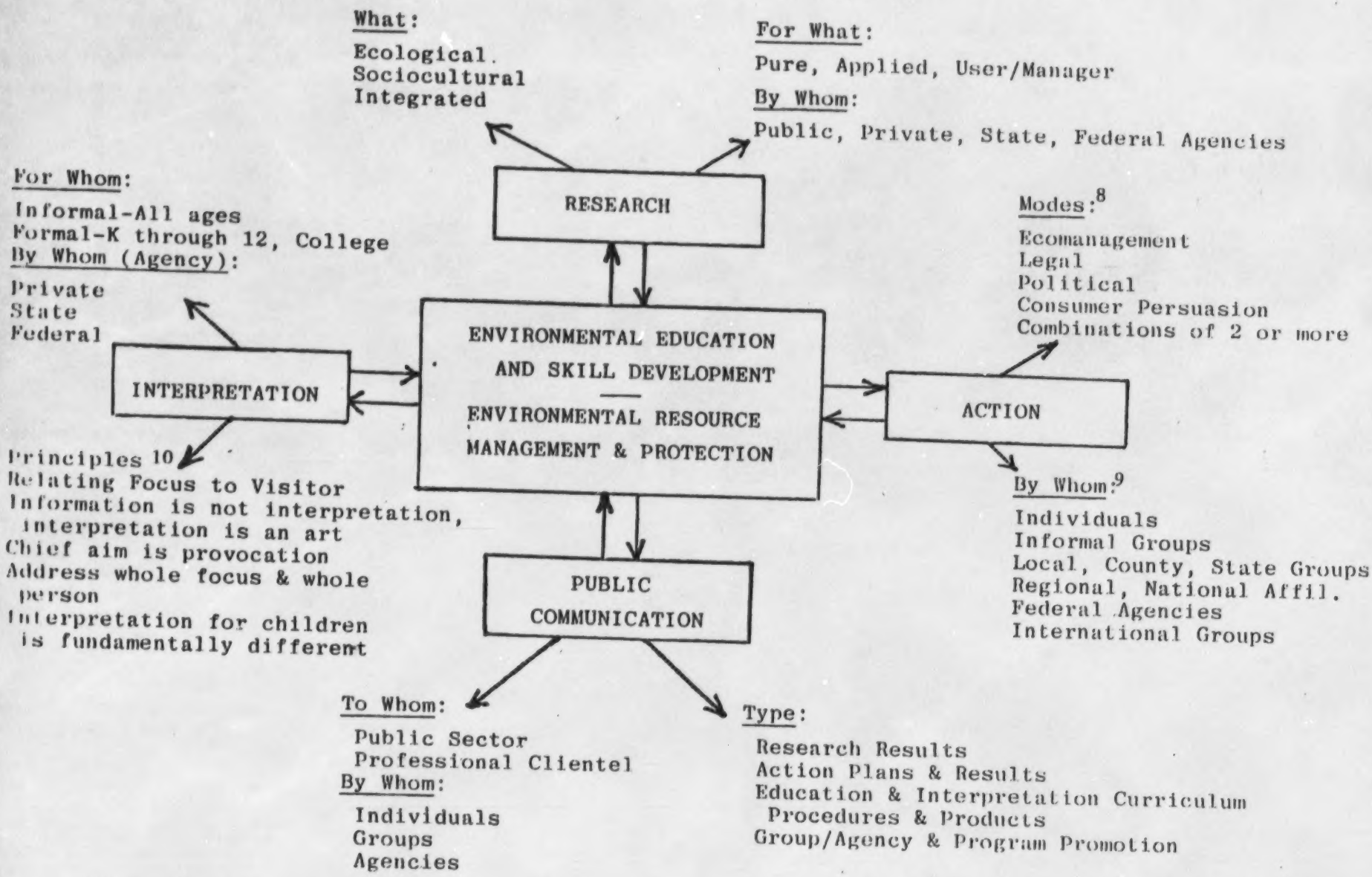
APPENDIX 2: A CONCEPTUAL MODEL OF THE ROLE WHICH SEACAMP/NHMI MARINE SCIENCE AND HUMANITIES PROGRAMS PLAY IN INTEGRATED ENVIRONMENTAL STUDIES AND COASTAL ZONE MANAGEMENT


MARINE SCIENCE
Ecocentric Concepts & Values
Non-ecocentric Concepts & Values
MARITIME SOCIAL STUDIES
INTEGRATED COASTAL & MARINE ENVIRONMENTAL STUDIES
Investigation & Research (Empirical)
Investigation & Research (Empirical)
MARINE SCIENCE FOR 4-12
Conceptual and Value Laden Studies
HUMANITIES STUDIES FOR 4-12
ENV. EDUC. & INTERPRETATION FOR 4-12
ENV. EDUC. & INTERPRETATION FOR ADULTS
COASTAL ZONE RESOURCE MANAGEMENT
SCIENCE CONSULTANTS
LEGAL & SOC. SCI. CONSULTANTS

PROGRAM PLANNING
POLICY DECISION MAKING
* RESEARCH--DATA COLLECTING
* MANAGEMENT STRATEGIES DEVELOPMENT
PROGRAM ENFORCEMENT

*In these two phases of management planning, the educational & interpretive programs displayed above may prove to be useful

APPENDIX 3: A DIAGRAM REPRESENTING THE COMMONALITY OF ENVIRONMENTAL EDUCATION AND ENVIRONMENTAL MANAGEMENT COMPONENTS



WILDLIFE SANCTUARY PLANNING

SATISFYING THE NEED FOR NATURAL AND CULTURAL RESOURCES INTEGRATION

Wm. D. Giezentanner*

INTRODUCTION

In the early 1900's, the Massachusetts Audubon Society (MAS) began managing what may be considered the first privately owned wildlife sanctuary in North America at Moose Hill in Sharon, Massachusetts. During those first years the Society sponsored train trips from Boston to Sharon for birdwatchers to explore the fields and woodlands of Moose Hill with an expert leader. This land, its natural resources, and its program of public visitation became the germ of a system that has grown to include fifteen staffed wildlife sanctuaries comprising a total of 7200 acres in Massachusetts, and set in motion similar efforts throughout North America and beyond.

From the beginning, the Massachusetts Audubon Society has worked to manage a majority of its land for two purposes, one natural and the other cultural or educational. The natural resource purpose is to protect the eco-systems present on the site and to allow them to evolve as naturally as possible. The educational or cultural purpose is to promote understanding and appreciation of natural systems and man's relationship with them.

These two purposes have been generally met on each property by a remarkably dedicated and talented string of directors, naturalists and volunteers. While their efforts have been largely in keeping with the above purposes they have typically evolved without planning. The stated purposes are necessarily vague and do not establish operating objectives or future expectations about either natural resources or educational programs. Lacking such specifics each new director, or administration has formulated their own short term objectives and operating practices. Sometimes these personal ad hoc rather than organizational "projects" have deviated radically from preceding directors.

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Sometimes such "projects" have been motivated more by budgetary considerations than by legitimate educational or natural resource management objectives. Often these projects have been the result of the personal skills of the individuals involved or of the passing interests of a significant audience. Sometimes resource management activities deemed necessary for program (visitation) purposes have been done without sufficient regard for specific natural resource protection requirements.

While these ad hoc practices have remained generally consistent with the original purposes of the sanctuary system they have not contributed to a clear understanding of the organization's ability to achieve meaningful objectives in either the realm of environmental education or natural resource management. This is not to say that objectives have not been achieved. Undoubtedly they have, but they have most often been achieved on an individual, and therefore random, basis, rather than systematically. Longer term objectives have often failed to be addressed.

A PLANNING STRATEGY

It was with this realization and a growing commitment to improving its ability to manage its natural resources and provide high quality educational opportunities that the MAS began to ponder the means to develop and achieve specific plans for each of its staffed wildlife sanctuaries.

Such a planning strategy had to be based on good information about both natural resources and the surrounding market for environmental education. It had to encourage the active involvement of MAS staff and volunteers. It had to result in a plan that integrated natural resource management and environmental education,and it had to provide a solid basis for necessary development programs (long-term funding) to assure future stability.

In the fall of 1978, after having spent five years living and working part-time on one of the Society's wildlife sanctuaries while consulting and teaching at the Harvard Graduate School of Design, I was hired to work with the Director of Sanctuary Operations, David Blanchard, and to prepare a "Guide to Sanctuary Planning". The "Guide" and its accompanying "Workbook" was completed and published in January 1979. Since then we have been working with several sanctuaries - using the Guide and Workbook to prepare sanctuary plans. Ipswich River Wildlife Sanctuary has progressed further than others and will be the basis for the following discussion.

CASE STUDY - IPSWICH RIVER WILDLIFE SANCTUARY

Ipswich River Wildlife Sanctuary consists of approximately 2500 acres (1000 hectares) of which almost 2000 acres are the wetlands and flood plain of the Ipswich River in Northeastern Massachusetts. Important natural features include eskers; islands in the floodplain, including Averilles Island with a unique stand of mature woodland; Bunker Meadow; a 35 acre enpoundment visited by numerous species of herons and other waterfowl; nesting bobolinks, woodcock and occasional bitterns; and approximately two miles of Ipswich River frontage. Important man-made features include the "Rockery", a distinctive planted area; Arboretum Road, with its examples of exotic plant species from around the world; the present house, built in 1763 by Samuel Bradstreet, a descendant of Governor Bradstreet (who had served as Governor from 1679 to 1692); and numerous out-buildings originally associated with the estate and now converted for Audubon's educational or maintenance uses.

The property was purchased by the MAS in 1950 and has been operated as part of its sanctuary system since then. During the last decade management has focused on educational/recreational programming with limited efforts on the systematic study or management of its natural resources. Major commitments of staff and volunteer resources have been directed toward managing recreational canoeing, skiing, camping, and special events like Hey Days, sleigh rides, and nature related arts and crafts. One major justification for these recreational programs has been financial. While these activities grew, study and active management of the sanctuary's natural resources were not keeping pace.

In the Spring of 1979 the Society took steps to regionalize its educational programs on the North Shore and take advantage of income from an endowed property at Wenham, not part of Ipswich River Wildlife Sanctuary. This was intended as a means of increasing program efforts in a large geographic area while allowing the sanctuary the opportunity to examine its future operations in the context of the planning process as set out in the "Guide". A meeting of local staff and the Ipswich River Sanctuary Committee (a group of interested volunteers) was held in May, 1979 to describe the planning that would be undertaken and assign various tasks to individuals. Volunteers and staff were naturally distressed by recent changes, which were perceived as being primarily motivated by financial conditions and interpreted as a reduction in support for the Sanctuary. Even so, all entered into the planning effort in a sense of enthusiasm and team work. From then till now the staff and volunteer committee has met almost monthly and put in numerous hours to complete various aspects of the plan.

Natural Resource Inventory

One objective of the Society's planning process is a complete inventory of each sanctuary's natural resources, including flora and fauna, habitat types, soils, geology, hydrology, climate, physiography, special features, and land use history. Unfortunately Ipswich River had little in the way of such inventory material. While species lists for flora and birds did exist, no quantified data in the form of transects or regular censuses had ever been done. A bird census technique had been developed by the Sanctuary Director and a group of volunteers and was well underway by the beginning of the planning effort.

The basic purpose of the natural resource inventory is to identify what exists on the site. However, such an inventory should also provide the basis for management planning and for site-related programs. Therefore a good natural resource inventory is a prerequisite for any really significant planning for natural resource management and environmental education programs.

At an early meeting of the Ipswich River planning committee we looked at the availability of natural resource inventory data and devided the task of assembling existing information from various sources among the members. Reports and maps were drafted and then staff edited and prepared them for inclusion in the planning workbook. Both the existence of specific information and its lack were noted.

Environmental Education Survey

What information does a nature center need for planning future environmental education programs? In general programs are offered on the basis of several considerations including, interests of staff, success of previous programs, perception of popularity of various issues, potential profit, capacity of facility, the environmental mission of the sponsoring organization, etc. Other important considerations that are often overlooked include availability of skilled teachers (non-staff), competition from other organizations, opportunities for joint sponsorship with other organizations, geographical variation in program interests, image and advertizing, etc.

In order to formulate an environmental education plan for the sanctuary and region, a survey was conducted of the thirty organizations known to be involved in some aspect of environmental education on the North Shore.

The basic purpose of the environmental education survey is to identify organizations and programs that are operating within the same region that share an environmental concern. At the same time, the survey provides an opportunity to make contacts with these organizations and begin a dialogue that may evolve into a variety of cooperative efforts, and it is also a useful means of determining program areas that MAS may consider in its program planning.

Objectives

What are we trying to do? How do we know if we are succeeding? How do we decide? These questions and various related issues occupied the committee during several sessions. They are among the most difficult questions facing environmental organizations at this time.

During the first meeting we attempted to define objectives and discuss what the objectives of current resource management and educational programs were.

A review of previous educational programs indicated a broad range of courses and events had been offered at the Sanctuary. The process of examining the objectives for these programs indicated that some had been offered that did not depend directly upon the natural resources of the property and could logically be given in the regional center or at other sites. It also revealed that major resources unique to the site, the river and its wetlands, had not been utilized in significant educational formats. The existence of the regional center provided a real opportunity to examine objectives in terms of their appropriateness to a variety of sites and such missed opportunities.

It was also clear, from this examination, that many past programs did not build on one another, that there was a preponderance of beginners programs, that recreation programs and use of the sanctuary for purely recreational activities often exceeded its use for environmental education. The management of these recreational activities had the potential of draining away staff resources that could be directed toward more focused educational programs.

Current resource management practices were also examined to determine their explicit or implicit objectives. Trails are maintained for visitor convenience and safety. Fields are mowed periodically to maintain openness and provide field habitats, landscape features, such as the Rockery and wildflower garden, require considerable management for their maintenance. A sugarbush and wood lot are being managed in connection with an annual sugaring-off program. The remainder of the staff resources available go into miscellaneous building and grounds maintenance and control or management of visitation. Active wildlife management is

currently limited to field maintenance, the occasional placement of nesting boxes, a backyard bird feeding demonstration, and a small experimental woodlot that has been cut to create a more diverse habitat.

During follow-up sessions we drafted the following, tentative environmental education objectives for the regional program and the sanctuary, and resource management objectives for the sanctuary.

Endicott Regional Center - Environmental Education Objectives

Provide or assist in the provision of a broad range of environmental education programs in the region.

Develop over the next five years a set of offerings in the region with a focus on the coast, general natural history, selected environmental issues (i.e. water resources, wetlands, coastal zone) and conservation topics with a direct or indirect relationship to lifestyles (i.e. energy self-sufficiency, wood burning, land use, etc.)

Develop programs in cooperation with other environmental or educational organizations within the region whenever possible.

Develop programs, especially in natural history, which build on each other. Provide programs from beginners' level to intermediate and advanced levels. Many advanced and intermediate level courses will use Ipswich River Sanctuary as a field study site.

Provide programs especially designed for teachers and group leaders so as to have an effect which reaches throughout the formal education system.

Develop and distribute self-learning resources on relevant topics (i.e. brochures, books, other literature, and other learning aids.)

Provide a regional environmental education resource center (library and teaching aids) for teachers and learners.

Develop contacts with area institutions of higher education and encourage them to utilize our land resources for study sites.

Ipswich River Wildlife Sanctuary - Environmental Education Objectives

Concentrate program efforts on native wildlife, natural resources and their management.

Develop over the next three to five years new offerings based on the unique natural resources of the sanctuary (i.e. wetlands, river, woodland management, wildlife management, etc.)

Increase opportunities for professional and amateur field study and research on native wildlife, habitats, plants, etc.

Provide interpretive information and self-learning opportunities for the casual visitor/beginner based on the above.

Ipswich River Wildlife Sanctuary - Resource Management Objectives

Maintain and/or manipulate native vegetation, habitat types, and seral stages for the encouragement of a diversity and abundance of wildlife indigenous to the area.

Clarify and promote a public understanding of the sanctuary as a land area devoted to the management of wildlife and natural resources.

Demonstrate that the economics of natural resource management can be consistent with both the environment and man.

Early Results of Planning Efforts

These objectives have formed the basis for on-going efforts to define in more detail both the natural resource management plan and the environmental education plan. At the regional scale, contacts made during the environmental education survey are being explored for a variety of joint sponsorship and cooperative efforts throughout the region. This fall's program will reflect some of these efforts, as will future programs. Beginners' programs are being offered at various sites and more advanced programs are beginning to be offered.

The sanctuary has examined its natural resource management objectives and determined it cannot make new management plans until it has more quantified information on the existent species of flora and fauna. Therefore, it has embarked on a new series of intermediate and advanced educational programs for amateur naturalists to help develop the information that will be a basis of future management plans. Already this change or clarification of focus has begun to attract college teachers interested in using the site for student field studies and contribute to the accumulation of information on the flora and fauna of the property. Examples of currently planned courses and activities include a two series program on bird study, annual bird censuses of species and abundance in winter and summer, nesting bird census, and botanical surveys.

This new direction has provided the means for integrating what had become two sometimes dicotomous areas of its activities - natural resource management and environmental education. Programs not consistant with the objectives are being dropped.

INTERPRETIVE MANAGEMENT COMMUNICATIONS[1]

Richard L. Perfrement[2]

Many times the point is raised, "How can interpretation assist management?" This implies interpretation to be an entity separate and distinct from management. Interpretation is a facet of management and is not separate and distinct. It is a means to behavior modification and control while assisting visitors to a better understanding, awareness, and appreciation of the resources. We need to restructure our thinking and purpose and put interpretation where it belongs - an integrated and significant component of a total park management program.

At the Association of Canadian Interpreters Conference held at Banff National Park, Alberta (October 1977), Jim Potton, the most senior administrator for Alberta Provincial Parks correctly identified the state of the art of the interpretive profession and its problems. Grant Sharpe and Paul Lange, Superintendent of Banff National Park, also discussed this issue. They are experts in all aspects of what makes an effective park. They all had one thing in common to say - get interpretation involved with park management.

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1. Presented at the national conference of the Association of Interpretive Naturalists, October 6-10, 1980, Cape Cod Sea Camps, Massachusetts.

2. Richard L. Perfrement is a Visitor Services Planner, Education and Interpretation Section of Alberta Provincial Parks, Edmonton, Alberta.

Sharpe and Gensler (6) have noted that interpreting an area's natural history is not enough. We need to include explanations of park programs (planning, development, activities), objectives, and policy. Sharpe (7) has stated three objectives for interpretation. First, "... to assist the visitor in developing a keener awareness, appreciation and understanding of the area he or she is visiting". Second, "... to accomplish management goals". And thirdly, "... to promote public understanding of an agency and its programs". As interpreters we have done an outstanding job accomplishing the first objective. We still need to work on the other two. We are gradually recognizing this deficiency and are beginning to respond to management's concerns related to agency goals and objectives.

In Dinosaur Provincial Park, Alberta, removal of fossils is forbidden. Provincial Parks decided that interpretation would be the best approach in order to gain the public's support and understanding for this policy. The policy is explained to visitors as part of the interpretive program with effective results. Visitors are encouraged to report dinosaur fossils to park personnel and are rewarded with recognition. They receive a "Fossil Finder's Certificate". The fossil finder is publicly recognized at interpretive events and the certificate is an acceptable souvenir substitute for the fossil. As a result of this interpretive management strategy, the removal of fossils has greatly decreased. Visitors now act as their own guardian to help preserve this significant resource.

Managers recognize the value of interpretive management communications and want to use interpretation as a means to total park planning and operations. Read their directives, listen to their needs, goals, objectives, and identify those to which interpretation can contribute. For example, a Dinosaur Park objective is to provide management and protection for an area which will allow it to be used by the public and still retain its natural and cultural value. An interpretive program objective is to provide visitors with conducted tours in a restricted area and allow visitors to participate in a scientific excavation. Interpretive messages include explanations for the policy and its management. As an activity, interpretation is <u>not</u> an end to itself (4), but is a facet of a total park management program.

Managers have made it fairly clear what they expect from interpretation. We need to identify our interpretive objectives in terms of park goals and objectives. We need to identify those visitor behaviors we want to elicit or modify. We need to make interpretation an integral part of the team effort to park planning and management. We should be prepared to identify problems and areas of concern and then develop programs to deal with them. We need to know how the park system operates and how interpretation functions within the system (5). Parks are composed of many functions and we as interpreters need to become familar with these different functions and understand the concerns and problems involved in each. This can be accomplished by becoming a park team member.

Don't isolate yourself from other park staff both in the field and in head offices. Get to know the staff - work with them and become part of the team. Planners should know other park team members as well as field personnel - talk to these people - learn about their function and tell them about yours - exchange ideas on mutual concerns. Field interpreters should get to know the personnel in their own park or setting. Involve your managers, rangers, and maintenance people with your programs. Talk to park planners and offer them your ideas. You know the park and visitors better than the head office staff.

Plan facilities and locations not for the sake of a facility, but for providing program opportunities (4). Be realistic and credible. Others will be depending upon you for your expertise in identifying an interpretive program and what is needed to support that program.

A major concern of interpreters and of managers, is resource protection. Identify goals and objectives for a resource protection program. The resources can be protected through those experiences and opportunities provided by interpretation. Try developing a resource protection program that involves the visitor and that will satisfy the manager.

Provide managers with information they need and can use, e.g. how your interpretive plan or program relates to the overall objectives of the park; how it relates to the park master plan; how it relates to current management problems; and how it relates to the overall policy of the organization (2).

Identify within your plan or program the interpretive objectives for activities or facilities and your objectives for their locations. Identify within your program or plan interpretive objectives, significance benefits, justification and requirements for capital development, manpower, and operation. Managers, can then assess your program in terms of how it relates to the park plan and operation. This puts your program in the same framework as all other park programs. With interpretative plans and programs presented and justified to park managers in this fashion, interpretation becomes a necesary, integral part of the total park operation.

Interpretation has yet to fully convince park managers that it is a useful, vital service. Sharpe and Gensler (6) have outlined several suggestions and examples of how interpretation can actively assist management. We are at a catch-up phase and should take advantage of management's desire to involve interpretation within the system. We should provide managers with a viable much needed service while providing visitors insight to the park, its programs, opportunities, and resources.

Too often we tend to look upon interpretation in a limited perspective. As professional interpreters we should not have to wait to be asked to become active contributers to park planning and operations, to become team members, to assist management with problems and concerns of operations, and to identify and explain objectives, plans, goals, and policy. It is generally written as a part of the <u>expected</u> interpretive function of an agency. For example, as expressed by the National Park Service, the purpose of interpretation is to foster public understanding and appreciation of parks; the park's significant historic, natural, recreational, and cultural values; and <u>related park management policies and practices</u> (3). The last part of the statement is just as important as the first, yet, generally, our programming efforts ignore or de-emphasize this part.

In Alberta, we have started to realize that managers need our help; that interpretation has a valuable input to park planning and operations. We have only recently completed interpretive plans that are well integrated into park master plans. These interpretive plans have involved all facets of management, planning, and operations. Each plan is an exercise in integrating interpretation within a total plan.

We have a new park just beginning its master planning. It is a park of international significance and has just recently been dedicated as a World Heritage Site (June 1980). By listening to senior management, identifying concerns, proposing programs and taking a team approach to planning and then operation, interpretation is beginning to become recognized as a valuable component to the park team. Within this particular park, Dinosaur Provincial Park, interpretation will lead the way in presenting the park to the visitor. Management recognizes the value of interpretation in protecting the resource while making it available to the visitor.

In time, instead of asking, "How can interpretation assist management?", we may be hearing from management, "How can management assist interpretation?"

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3. Nation Park Service. 1976. Interpretation Guidelines NPS-6.

4. Potton, James. 1977. "A Manager's Perspective of Interpretation". Proceedings - 1977 Annual Workshop, Association of Canadian Interpreters, Banff, Alberta. October 1977.

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7. Sharpe, Grant W. 1976. An Overview of Interpretation. In: Interpreting the Environment. Grant W. Sharpe (ed.). New York. John Wiley and Sons.